

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In The Matter Of the Application Of
PUBLIC UTILITIES COMMISSION
Instituting a Proceeding to Investigate
Distributed Generation in Hawaii.

DOCKET NO. 03-0371

OPENING BRIEF

EXHIBITS "A" - "D"

AND

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OPENING BRIEF

This Opening Brief is respectfully submitted on behalf of Hawaiian Electric Company, Inc. ("HECO"), Maui Electric Company, Limited ("MECO") and Hawaii Electric Light Company, Inc. ("HELCO") (collectively, the "HECO Companies").

Section I of this Opening Brief addresses the key issues to be decided in this Docket. Sections II, III, and IV address the planning, impact, and implementation issues, respectively, identified in Commission Prehearing Order No. 20922, issued April 23, 2004. Exhibit A provides responses to the seven additional issues identified by the Commission by letter dated December 28, 2004. Exhibit B provides the background for this proceeding, and includes the dockets leading up to this Distributed Generation Investigation. Exhibit C (Virtual Power Plant) and Exhibit D (Rate Design) address matters that were raised during the course of the proceeding that appear to go beyond the scope of this docket.

I. KEY ISSUES

A. SUMMARY

The Hawaii Public Utilities Commission (the "PUC" or "Commission") has opened a broad generic investigation of distributed generation ("DG") in Hawaii. The primary issue,

however, boils down simply to whether the HECO Companies (and KIUC¹) will be allowed to provide customer-sited DG to their customers as a regulated utility service and, more particularly, whether they will be allowed to provide energy efficient combined heat and power (“CHP”) systems to their customers.² The other key issues are (1) whether any conditions should be imposed on utilities to maximize the benefits to customers taking advantage of CHP systems (“CHP customers”) and the remaining vast majority of utility customers (“non-participating customers”), and (2) whether any interim conditions should be imposed so as to avoid further delay in taking advantage of CHP systems to accomplish customer benefits (lower energy costs), utility benefits (meeting customer capacity and energy demands in a cost-effective manner), and State benefits (promoting energy efficiency). A delayed decision is not a non-decision – it is a negative decision effectively prohibiting utilities from offering customer-sited CHP systems, without any findings or evidence that that is in the public interest.

The case in support of Hawaii utilities offering CHP systems is overwhelming, given (1) the legitimate, demonstrated desire of potential Hawaii CHP customers (which generally are hotels or smaller manufacturing entities, rather than large industrial firms³) to be able to take advantage of the energy efficiency savings offered by such systems without having to own, operate and maintain the generators, (2) the franchised responsibilities of Hawaii’s utilities to serve customer peak loads, coupled with a mandate from the Legislature to rely on energy

¹ Kauai Island Utility Cooperative.

² DG refers to the use of small-scale generating units located at or near the load to produce electricity. CHP systems are a form of DG that utilize waste heat from the power generation process as energy (heat or steam) for heating or cooling purposes. The advantage of a CHP system over conventional electric generating units is the increased efficiency obtained when the captured waste heat is put to useful purposes. The thermal efficiency of fuel usage typically ranges from 85 to 90% for a CHP system compared to 35 to 40% for conventional central station generating units.

³ There are two refineries in Hawaii, which already have cogeneration facilities.

efficiency and other renewable energy measures to the extent cost-effective in fulfilling that responsibility, and (3) Hawaii's small and isolated energy market, which renders complete reliance on non-regulated third-parties to meet the needs and desires of potential CHP customers inefficient and unwise. That is why the utilities, potential CHP customers (through their actions in entering into letters of intent and contracts for CHP services with the Companies, and in their public comments), manufacturers of CHP systems (such as Hess Microgen LLC ("Hess") in this proceeding, and other manufacturers who have responded to the HECO Companies' competitive procurement process, which was introduced as a result of this docket), and the Division of Consumer Advocacy (the "CA") (which is charged with advocating the interests of non-participating utility customers, and not just potential CHP customers) have all supported and advocated the utilities' provision of utility CHP services.

The HECO Companies have done everything within their power to offer utility CHP systems. They have developed a detailed, innovative CHP program, complete with CHP tariff, form of agreement and program analysis to show benefits to non-participants. They previously developed and obtained approval for detailed interconnection tariffs, and standards and agreements (Rule 14.H). When the PUC suspended the CHP program tariff, the Companies began the process of entering into and filing Rule 4 contracts with individual CHP customers, based on the guidance gleaned from the PUC's order opening this docket and the CA's statement of position requesting the suspension. Despite their attempts to be proactive, utility CHP systems are still non-existent, and the CHP market is on hold (not because third-parties are affected by the suspension orders, but because customers still want utility-owned CHP systems).

That is not to say that the HECO Companies' efforts to be innovative and proactive have

not included missteps (real or perceived). The February 2003 teaming agreement with Hess⁴, while an attempt to take advantage of Hess's experience in Hawaii and in providing packaged CHP systems, indicated to others that they might not be able to compete in supplying CHP systems to the utility. Therefore, the HECO Companies, with Hess's cooperation, have attempted to remedy this "misstep" by canceling the teaming agreement, and initiating a competitive procurement process. The other supplier of generation for DG/CHP systems that had intervened in this proceeding (Pacific Machinery, now known as Hawthorne Pacific) has withdrawn from the proceeding.

There also are parties in this proceeding who want the PUC to exclude utilities from participation in the market of owning, operating and maintaining CHP systems. While they purport to do so in the name of "competition," it should be clear to an objective observer that competition is not improved by eliminating the competitor with the most desired product. It is also clear that such parties are using this proceeding to promote their favorite regulatory proposals or positions, such as (1) wheeling of energy on behalf of counties and the so-called virtual power plant concept using customer-owned emergency generators – promoted by the County of Maui ("COM"); (2) impact fees for new commercial customers, time-of-use block energy rates for large power customers, and inverted rates for residential customers - promoted by COM's consultant; (3) changes in the net energy metering law - promoted by the Hawaii Renewable Energy Association ("HREA"); and (4) outright adoption of 100% renewable energy - promoted by Life of the Land ("LOL"). Regardless of the merits of their proposals, this is not the docket or, in some cases, the forum to consider or act on the proposals, and they certainly should not be allowed to hold up action on the key issues in this docket.

⁴ See discussion in Section I.D.1, *infra*.

What are the conditions that the utilities could be required to meet so that customers retain the option to install their own CHP system, or to acquire energy from a third-party owned CHP system if a third-party elects to offer that service on a non-regulated basis? (The HECO Companies are not aware of a third-party currently offering this option. Hess was the system supplier that offered that service in Hawaii, and Hess stated that it no longer wants to be in the business of running CHP systems.) Conditions that address the legitimate concerns of competitors that are suggested by the record and, thus, acceptable to the Companies, are as follows:

1. Establish a PUC-approved, CA-reviewed interconnection tariff, interconnection standards and form of interconnection agreement. This condition has already been met. In addition, in response to Hess's concern about the transparency of the utilities' interconnection review process, the HECO Companies stated that (besides filing regular reports to the PUC on the status of interconnection agreements under development as required by Rule 14.H) they would develop an interconnection guidance document to be shared with DG Developers and customers, which could be posted on the HECO Companies' website. Transcript ("Tr.") (12/09/04) at 180 (Seu).

2. Show that the utilities' bundled price for CHP service, backup service and supplemental service⁵ is equal to or greater than the unbundled cost.⁶ This would be done by

⁵ Customers with loads that are partially served by an on-site CHP system receive three types of service. These include (1) CHP system service, which is the electrical capacity and energy supplied by the CHP system generating unit(s), and the thermal energy supplied by the system (which can drive an absorption chiller, and thereby further displace the use of utility system electricity), (2) "supplemental service," which is the electrical capacity and energy supplied by the electric utility system that is used by the customer in addition to that regularly supplied by the CHP system generating unit(s), and (3) "backup service," which is the electrical capacity and energy supplied by the electric utility system during scheduled or unscheduled outages on partial unavailability of the CHP system generating unit(s) (and absorption chiller). Backup service provided during scheduled outages is sometimes referred to as "maintenance service."

showing that revenues from unbundled prices (i.e., the CHP service priced at cost, and the supplemental and backup services priced based on the existing tariff – since that is the price charged to customers with customer-owned CHP systems) would equal or exceed revenues from the proposed bundled prices. If unbundled pricing revenues are higher, then the bundled CHP price would have to be raised (by reducing or eliminating the CHP electricity discount, and/or by increasing the thermal fee). If the utility wanted to justify a lower than unbundled CHP system cost price, for example due to central station generation deferral benefits obtained by all customers, then it could be required to “level the playing field” for third-party or customer-owned CHP systems that provide the same generation deferral benefit by reducing their cost for standby service by the same amount.⁷

3. Show that non-participants would not be burdened by the utilities’ provision of CHP service. This would be done by updating the quantitative analyses that were done for the CHP program filing based on current information. (In the Rule 4 contract filings in Docket Nos. 04-0314 and 04-0366, HECO and HELCO indicated that various revisions needed to be made to this analysis such as updating heat rate assumptions and correcting an understatement of facility fee revenue. In light of HECO’s current need for additional generation, and its expected inability to add central station generation before 2009, the updated analysis also should identify the method used to value the generation deferral benefit of CHP in the 2006-2009 timeframe.)

What conditions should not be imposed at this time? The utilities should not be required to implement standby charge tariffs before offering CHP services. There was no consensus at

⁶ The CA originally proposed that the utilities’ pricing be unbundled. The HECO Companies showed why that would not be a practical approach. The CA and the utilities then agreed with the requirement as restated above. See discussion in Section IV.B.3, *infra*; CA-RT-100.

⁷ This option to the utility would not be available until the Commission approved standby charges.

the hearing (or even within the HECO Companies) as to exactly what standby charge tariffs should be implemented. Although HELCO has a CA-stipulated, PUC-approved standby rider, there is still a perception that certain provisions of that standby rider “may” need to be revised. These issues could be resolved through a follow-on proceeding.⁸ Pending an interim stipulation or final decision as to the form of standby rate that should be implemented, and the follow-up filing of conforming standby charges, HELCO would agree to make its standby rider voluntary if the PUC deems that to be appropriate.⁹

The utilities should not be required to establish “incentive payments” for third-party or customer-owned CHP systems in order to acquire hypothetical transmission and/or distribution (“T&D”) deferral benefits.¹⁰ The unrefuted evidence shows that, while there may be T&D benefits in concept, they cannot be predicted or quantified at this time. That also means that the utilities should not be allowed to calculate an additional discount for their CHP services (below that which is justified by the analyses described above) based on alleged T&D benefits.¹¹

⁸ See discussion in Section IV.B.4, infra. A discussion of the various conceptual theories used in other jurisdictions to set standby rates was included in the Supporting Statement filed by HELCO with its Stipulated Final Standby Rider Proposal (pages 16-25) filed January 24, 2001 in Docket No. 99-0207. As noted therein, there is no clear-cut industry standard for designing and implementing standby rates and tariffs, and the approach can vary from utility to utility in the same jurisdiction. A copy of the Final Standby Rider Proposal and Supporting Statement was filed on February 25, 2005, as committed to during the panel hearings.

⁹ Id.

¹⁰ One of the COM’s representatives suggested that if the installation of a DG unit at a certain location results in a benefit to the utility system (e.g., deferral of transmission or distribution project), then a non-utility DG provider should be compensated by the utility for installing the DG unit at that location. Tr. (12/8/04) at 94-95 (Lazar).

¹¹ If, however, a situation does arise where the utility wants to offer an additional discount in a particular situation, the utility could be required to quantify the amount of the additional discount and to offer that amount as an incentive to third-parties or customers (which incentive could be in the form of a discount to their PUC-approved standby charge) if a customer contractually commits to install a non-utility system instead. This should satisfy COM’s concern.

Finally, no change is necessary to the utilities' integrated resource planning ("IRP") processes to accommodate CHP systems, and no party has formulated a practical or realistic "requirement" for the Commission to adopt.

B. Providing CHP Systems Is An Appropriate Hawaii Utility Program

1. The HECO Companies Are In The Business Of Providing Generation

CHP is a generation service which can and should serve the HECO Companies' utility function, and the HECO Companies' proposal to provide CHP services comports with the Companies' operations as a provider of generation services.

As a public utility engaged in the production, purchase, transmission, distribution, and sale of electricity, the HECO Companies have long been in the business of providing generation. See Docket No. 03-0366, the HECO Companies' application ("CHP Application"), filed October 10, 2003. The HECO Companies have extensive central station power generation experience. In addition, the HECO Companies have had direct experience and expertise with the application, installation and operation of DG. See Response to HREA-HECO-RT-1-IR-2. For example, the HECO Companies currently own, operate, and maintain small diesel engines, as well as dispersed generators on the MECO and HELCO systems. HECO T-4 at 9; HECO Companies' Response to PUC-IR-10.

2. The HECO Companies' CHP Offering Is A Natural Step In The Evolution Of Utility Services

Utility-owned and operated CHP is a natural evolution of electric utility services. As stated previously, the HECO Companies have long been in the business of installing, operating, and maintaining generating units, and the electric utility can readily and naturally apply this expertise to CHP systems. HECO T-1 at 28. Over the past 4 to 5 years, the HECO Companies' approach to DG, cogeneration, and CHP has appropriately developed into the current CHP

offering today. HECO T-1 at 22; Response to LOL-WDT-IR-32.

Phase 1. Initially, customer-sited DG installations often presented problems for the customers and utility. The HECO Companies viewed DG and cogeneration as an “uneconomic bypass” threat. This threat presented unaccounted impacts on the utility system and potential adverse impacts on participating and non-participating customers. CHP Application at 3. In addition, the high cost of CHP systems made implementation of a broad-based utility CHP program undesirable. CHP Application at 14.

Phase 2. As time passed, DG and cogeneration installations became more cost-effective. In addition, public policy support for DG and cogeneration technologies increased. Therefore, the HECO Companies began to explore the feasibility of DG and cogeneration in Hawaii. CHP Application at 3, 6.

Phase 3. In 2001, the HECO Companies decided to conduct pilot DG and cogeneration projects, subject to PUC approval. This decision came in response to the growing customer interest in DG and cogeneration, and for the purpose of gaining hands-on experience and assessing DG and cogeneration’s system benefit potential. The HECO Companies pursued DG and cogeneration opportunities as utility projects because the Companies had the resources, expertise, and infrastructure to undertake the projects. Further, the objectives of offering CHP services were consistent with utility objectives.¹² The HECO Companies’ decision to offer CHP on a regulated basis avoided the opportunity for conflicting objectives between the Companies’ regulated and unregulated businesses and the resulting appearance of setting shareholders against ratepayers which might have been alleged had the Companies entered into the CHP business on

¹² These objectives include provision of generating capacity, deferral of capital investment in central station generation and T&D capacity, system reliability, and meeting customer needs. PUC-IR-33.

an unregulated basis. CHP Application at 7; HECO Companies' Response to PUC-IR-19.

Phase 4. Changes in the DG marketplace underscored the appropriateness for the HECO Companies to become directly involved in CHP. By this time, CHP systems were increasingly more standardized, more reliable, and far less costly than "one-off" design and build CHP projects. In addition, customer inquiries to the HECO Companies in regards to the potential benefits of CHP were increasing, indicating a strong desire for the Companies' involvement. Based in part upon direct discussions with customers, the Companies decided to take a more active role by offering CHP systems to its customers. CHP Application at 10.

The standard criticism of regulated utilities and of regulation has been that they are too slow to respond to changed circumstances. In this case, however, the HECO Companies have defied conventional wisdom by recognizing that circumstances have indeed changed, and by expeditiously responding with an aggressive new program. HECO T-6 at 6.

3. Hawaii's Electric System Is Unique

a. Geographical Isolation

Hawaii's isolated geography gives rise to its unique electric scheme. As a result, Hawaii's electric system substantially differs from the mainland electric model. Unlike mainland systems, Hawaii's electric scheme is comprised of separate stand-alone systems. In other words, none of the island electric systems are interconnected, as only one electric utility serves each island. HECO T-6 at 7. Given this unique, discrete electric system structure, Hawaii utilities cannot rely on importing power. Without interconnection of neighboring systems, no fallback option will be available if it is assumed that non-utility DG will be sufficient to meet the state's growing capacity need, but such generation proves inadequate.

In addition, the state energy policy specifically sets forth the objective of increased

energy self sufficiency by increasing the ratio of indigenous to imported energy use. See HECO T-2 at 22. Therefore, the HECO Companies must plan proactively to accomplish this objective and plan for larger reserve margins. In sum, given Hawaii's uniqueness and energy policy objectives, the Companies' development of a CHP Program, and their active participation in the CHP market are particularly appropriate. Response to LOL-WDT-IR-32.

b. Small System Size

Hawaii's relative geographical isolation gives rise to the relatively small size of its electric systems, as compared to larger mainland systems. To the extent that CHP systems can play a broader role in the utility electrical system, it is even more natural for the HECO Companies to be directly involved in developing and owning CHP. Response to COM-HECO-DT-IR-53. As a result, DG has greater potential impact on the energy system and energy consumers. Therefore, a comprehensive and proactive approach should be taken to manage impacts to all stakeholders.

4. The HECO Companies Should Be Given Flexibility In The Manner To Achieve RPS Goals

The HECO Companies cannot just be in the business of offering central station generation, as they have been told by legislators, by regulators, by the press, by the public and by their customers. Rather, the HECO Companies must be able to offer their customers an expanded array of choices, while promoting the State's energy objectives. HECO T-6 at 3. The state energy policy objectives include: (1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people; (2) Increased energy self-sufficiency where the ratio of indigenous to imported energy use is increased; (3) Greater energy security in the face of threats to Hawaii's energy supplies and systems; and (4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use. HECO T-

2 at 22.

a. Hawaii's Renewable Portfolio Standards Law

In an effort to stimulate renewable energy development in Hawaii, the State legislature enacted, in part, the renewable portfolio standards law ("RPS", Hawaii Revised Statutes, Chapter 269 § 91-94). HECO T-2 at 22. In general, an RPS is designed to require that a specified percentage of the electricity sold by electric utilities be generated from renewable sources such as wind, solar, geothermal, hydropower, biomass and other renewable resources by a specified date. The RPS law, which took effect in mid-2001, set a RPS goal of 7% in 2003, 8% in 2005 and 9% in 2010. HECO T-2 at 22. In 2003, the RPS level reported by the HECO Companies was 8.40%. Response to LOL-WDT-IR-43.

To further encourage renewable energy development in Hawaii, the 2004 Legislature updated the RPS law in Act 95. Act 95 increased the renewable energy goal to 10% by the end of 2010, 15% in 2015, and 20% in 2020. In addition, the Legislature considerably expanded the RPS renewable energy definitions to include numerous types of renewable technologies, and explicitly included rejected heat from co-generation and combined heat and power systems (excluding central station power plants and large independent power producers). HECO T-2 at 22; see also Response to LOL-WDT-IR-45.

b. Utility Should Be Afforded Flexibility in Meeting RPS Goals

In light of the augmented renewable energy goals, the HECO Companies should be afforded reasonable flexibility in complying with the state's RPS standards. The Hawaii Legislature has identified combined heat and power as an efficient generation technology within the definition of "renewable energy." See HECO T-2 at 24. Technologies like combined heat and power can result in satisfying electrical and thermal energy needs while using less oil.

Because the CHP process utilizes waste heat, it is a “reusable” energy source that reduces the use of fossil fuels, the outcome that the RPS was designed to ultimately achieve.

Therefore, the HECO Companies’ pursuit of its CHP program advances the important state energy objective of reducing fossil fuel use while complying with the state’s RPS standards.

5. Hawaii Utilities Should Be Able To Offer Customers The Ownership Option

The HECO Companies’ CHP product differs significantly from that generally offered by non-utilities, and is an option that non-utilities generally are unwilling to offer or provide to customers at this time. This is the option where the entity (in this case, the utility) that provides for the installation of the CHP system continues to own, operate and maintain the system. This was an option that Hess promoted in its earlier installations in Hawaii – but no longer desires to offer.

As is explained below, this is an option that many customers strongly want, and the provision of that option by a reliable entity like the utility should significantly expand the penetration of cost-effective CHP systems.

Hess previously offered to own the CHP equipment. Hess no longer offers to own the CHP equipment (i.e., Hess no longer offers to put up its capital to build the CHP facility, and then provide electric and thermal energy under a long term contract with the host customer). Hess also observed that the industry trend is that vendors are pulling out of offering third-party ownership of CHP equipment. Tr. (12/8/04) at 124-25 (Gregg).

Hess does not feel that it is at a competitive disadvantage to the HECO Companies by not offering to own the CHP equipment.¹³ Tr. (12/8/04) at 125 (Gregg). Hess is in the equipment

¹³ According to Hess, it can compete with the HECO Companies in terms of price. The different ownership options result in different pricing options due to the utility putting up its own capital in

sales business. It stated that it would be better off if the customer has the option to be either the owner of a CHP system or to have the utility own a CHP system. Tr. (12/8/04) at 127 (Gregg).

On the other hand, the HECO Companies are not in the business of selling equipment. The HECO Companies will not market a specific vendor's equipment and will not receive a commission from CHP equipment manufacturers. The HECO Companies will work with the CHP host customers to identify what their needs are, and to see if an option that will help them save energy can be developed. The HECO Companies propose to own, operate and maintain the equipment as a utility service and the host customers will not have to worry about such issues.

6. Offering CHP Systems As A Utility Better Protects Non-Participants And Achieves Greater Benefits

The HECO Companies' provision of CHP systems on a regulated basis will ensure that the interests of all customers are taken into consideration. Benefits should be available to the customers for whom DG/CHP is a viable option, but the interests of non-participants should be protected as well. Independent implementation of DG or CHP results in a loss of revenue to the HECO Companies. Consequently, the lack of contribution to fixed costs from customers that implemented non-utility DG/CHP will ultimately result in adverse impacts to all customers. HECO T-1 at 17.

In general, non-utilities will focus on their own financial interests, not the interest of other utility customers. An unregulated non-utility owner and operator of a CHP system has an interest in properly running its CHP unit, but is not required or motivated to consider potential impacts on non-participating customers. In contrast, the HECO Companies are accountable not only to the host CHP customer, but also to the non-participating ratepayers and regulatory agencies. Thus, the HECO Companies must consider impacts to both participating and

one instance and the host customer putting its own capital in the other instance. Tr. (12/8/04) at 126 (Gregg).

nonparticipating customers. HECO RT-1 at 17; HECO T-1 at 20.

The HECO Companies' proposed CHP Program is structured so that from a rate impact standpoint, non-participating customers are better off when a host CHP customer chooses to install CHP with the utility rather than a non-utility CHP provider. See response to HREA-HECO-T-1-IR-8. Therefore, the needs of participating and non-participating customers can be better served if the program is provided by the HECO Companies on a regulated basis. HECO RT-1 at 36.

C. Customers Want The Utility CHP Option

1. The HECO Companies Offer Options Generally Not Offered By Other Parties

a. The HECO Companies' Offering Differs from Third Parties

The HECO Companies' CHP product differs significantly from that generally offered by non-utilities. These differences form the basis for customers' support and demand for the Companies' CHP Program. HECO T-1 at 25; see also CHP Application at 19-22.

The key distinction between the HECO Companies and other parties' proposed CHP offerings is that the HECO Companies are willing to own, operate, and maintain the CHP systems. Other vendors generally are not offering this option. Specifically, the HECO Companies' proposed CHP Program includes the following key elements: (1) Electrical and heat capacity based upon the customer's continuous base heat load; (2) Utility owned, operated and maintained system for a 20 year term; (3) Defined savings based upon a discount from the customer's standard tariff for power generated on site. HECO T-1 at 27.

In contrast, non-utility CHP vendors proposals do not include the ownership, operation and maintenance model that the HECO Companies have proposed. Rather, non-utility vendors typically offer the following: (1) Electrical capacity (in some cases) that is equal to the

customer's peak requirements; (2) Direct equipment sale or relatively short term operating lease (usually seven years); (3) Shared savings based upon historical energy consumption; and (4) Equipment maintenance. HECO T-1 at 27.

As stated above, with regard to CHP Systems in particular, customer support for the HECO Companies' offering is based in large part upon the Companies' willingness to provide complete services. Customers are satisfied that the utility brings a comprehensive package of total energy solutions and has the highest level of expertise for that kind of work. In the words of one customer; it means "one stop shopping". See HECO T-1 at 25; HECO RT-1 at 9. Thus, in evaluating the differences between the HECO Companies' and third party offerings, the most critical factor is the sentiment of many facility owners that they do not want to own, operate and maintain power systems. HECO T-1 at 25. Most customers would like to maintain a focus on their core business and leave energy and power matters to the utility. See HECO RT-1 at 9. Therefore, customers have responded well to the HECO Companies' model as it relieves them of the responsibilities of owning, operating, and maintaining the CHP equipment themselves, or subcontracting those responsibilities out. COM-HECO-DT-IR-3. Thus, the HECO Companies' offering enables both customers and the Companies to focus on what each does best. See HECO T-1 at 17, 25; HECO RT-1 at 5.

In addition, most customers focus almost exclusively on their bottom line. Customers want to reduce operating costs any way they can, and they want to do it with a minimal amount of investment and risk on their part. The majority of customers have responded very favorably to the simplicity of the approach proposed by the utilities. A customer who satisfies the HECO Companies' eligibility requirements for a CHP system need only provide a viable site for the system. In return, customers receive electricity and heat at prices that afford them energy cost

savings, without having to invest their own capital or experience the burden of operational risk. CHP Application at 21; CHP Application, Exhibit C at 10.

Therefore, the offering presented by the utility is unique and certainly differentiated enough from that of non-utility vendors, such that it represents another distinct option for customers. In a competitive marketplace, customers should be given the opportunity to consider as many options as possible. HECO T-1 at 27. For these reasons, customers find the HECO Companies' unique model of utility-owned, operated and maintained CHP desirable. HECO T-1 at 25.

b. The HECO Companies Are Subject to PUC Regulation

The HECO Companies' status as a regulated entity enhances the desirability of the utility's offering. The Companies are accountable not only to the host CHP customer, but also to the non-participating ratepayers and regulatory agencies. See HECO T-1 at 21. This provides reassurance to CHP customers that the CHP systems will be properly designed, operated, and maintained. COM-HECO-DT-IR-3. Therefore, because customers recognize and place high value in the utility's accountability as a regulated entity, customers want the HECO Companies to offer CHP systems. HECO T-1 at 25; HECO RT-1 at 18.

2. The HECO Companies Are A Trusted Service Provider In Hawaii

Over the years, the HECO Companies have earned a trusted name as a provider of electric services in Hawaii. The HECO Companies have cultivated strong customer relationships by providing reliable service and being responsive to customers needs. See CHP Application at 71. In this respect, customers appreciate the Companies' long-standing presence in Hawaii. HECO T-1 at 25.

In contrast, some customers may be uncertain about the staying power of mainland-based

vendors. They know that large mainland entities can close operations and leave Hawaii at any time. At the same time, customers trust the HECO Companies to remain in Hawaii for the long-term and to resolve any problems that may arise. Preliminary Statement of Position ("SOP") filed May 7, 2004 at 11. Customers have expressed their desire to work with a company with a strong, reliable, local presence. HECO T-1 at 26. Buyers of any product or service are better off with well-established, recognized, and stable players. HECO RT-1 at 18.

Therefore, the HECO Companies' stability and accountability are important factors in the overall implementation of CHP in Hawaii.¹⁴ At the very least, most customers want the utility to be an option they can consider. HECO Companies' Preliminary SOP at 11. They recognize the HECO Companies' commitment to its customers, its longstanding presence in Hawaii, and its earned reputation as an experienced power service provider.

3. The HECO Companies Are Not in the Business of Selling Equipment

The HECO Companies are not in the equipment sales business. As such, the Companies would not be sellers of DG or CHP equipment. Rather, the HECO Companies would be purchasers of such equipment, continuing to own, operate and maintain the equipment while selling electricity and thermal energy. Response to HREA-HECO-IR-8. The Companies' equipment purchases from manufacturers for the systems will be conducted in a competitive fashion through the Companies' new CHP equipment procurement process. HECO RT-1 at 22.

As a result, customers appreciate that utility involvement provides more choices and options among CHP vendors, which maximizes competition in the market. HECO T-1 at 26. Customers recognize that the utility presents an objective perspective in evaluating other options such as the installation of energy conservation measures tailored to the unique needs of the

¹⁴ Hess acknowledged that the marketplace was looking for a long-term presence in the market and not a company that is in the market for a while and then exits the market. Tr. (12/8/04) at 126 (Gregg).

customer and facility. In addition, customers have noted their appreciation that CHP is an option the utility considers in helping the customer seek optimal efficiency. HECO T-1 at 26.

4. The HECO Companies' Core Business is Power Generation

DG provides a source of power generation. Likewise, the HECO Companies' core business is power generation. Customers want to focus on what they do best and let the utility do what it does best: (a) own, operate and maintain power facilities; (b) manage fuel procurement for power facilities; and (c) manage electrical system interface. HECO RT-1 at 9.

Customers are satisfied that the utility brings a comprehensive package of total energy solutions and has the highest level of expertise for that kind of work.

DG technologies are significantly more complicated than the type of equipment covered in the HECO Companies' DSM programs. Specialized training, monitoring, control, and maintenance are required for the successful and reliable operation of CHP systems. The HECO Companies offer qualifying CHP customers the savings of a CHP system without the need for them to hire or train personnel for these specialized tasks. Response to HREA-HECO-IR-8.

As evidenced by the addition of DG units on the MECO system, for example, DG can play a direct role in utility system planning and operation, so it is appropriate for the HECO Companies to be involved. See Opening Brief Section III.A.

Moreover, utility-owned CHP may provide reliability benefits over non-utility CHP. Some CHP systems that are installed by third parties may be of substandard design or construction. Some may be operated and maintained by third parties who lack adequate operating and maintenance training or experience. Some CHP systems that are owned, operated and maintained by customers themselves may not be properly or adequately maintained because power generation may not be within the customer's core expertise. This is in contrast to CHP

systems that are installed, operated and maintained by the utilities. The utility's core business is power generation and it has substantial power generation experience, which extends to DG. HECO RT-1 at 14.

The panel hearing participants were asked whether the Commission could provide mechanisms or incentives to third-party suppliers of DG/CHP systems so that they would balance the interests of the utility system and non-participating customers with the interests of their DG/CHP customers. Both the utility and CHP system vendor representative indicated that that would be impractical.¹⁵

The Hess representative agreed with the HECO Companies that, unlike the HECO Companies, which would balance the interest of the CHP customer with the impact of the CHP project on other ratepayers, Hess is only concerned with the interest of the CHP customer. (In other words, the utilities would do a better job of maximizing the public interest and not just the CHP's customer interest.) Hess would only look to supply the amount of energy necessary for the CHP customer. Hess would not put in additional equipment that would benefit people other than Hess's CHP customer (e.g., increase the size of the unit, or install different control mechanisms) unless it would get a return on its investment. Hess also noted that it was difficult enough to negotiate one contract with a CHP customer, and that it would be difficult to enter into the other contracts that would be necessary (e.g., a contract with the utility) "to try and chase other sources of revenue to put in other equipment." See Tr. (12/8/04) at 86-90 (Seu), 97-99 (Gregg).

Moreover, none of the parties to this proceeding have suggested that the Commission should attempt to regulate the provision of CHP systems to CHP customers by third-parties

¹⁵ Interestingly, the party that has not often suggested that the utilities can control the operation and maintenance of non-utility CHP systems has been HREA - - which has opposed the inclusion of certain performance standards in IPP power purchase contracts.

(other than to require that the systems comply with interconnection standards).

5. Customers Have Publicly Stated Their Support For the HECO Companies' Offering

a. Agreements Executed

The most significant evidence of customer support and desire for the HECO Companies' proposed CHP Program is the recent execution of two contractual agreements for utility-owned CHP systems at customer sites. HECO RT-1 at 40.

The first CHP agreement was executed on September 8, 2004 between HECO and Pacific Allied Products, a major plastics and styrofoam manufacturer located in Campbell Industrial Park. The contract requires HECO to install, own, operate, and maintain a CHP system on the Pacific Allied site consisting of two 250 kW diesel generators and a 100-ton absorption chiller. HECO RT-1 at 40.

The other CHP agreement was executed October 6, 2004, between HELCO and the owners of the Sheraton Keauhou Resort, a newly renovated hotel on the Big Island. The contract requires that HELCO install, own, operate, and maintain a CHP system on the hotel site, consisting of two 370 kW diesel generators and a 95-ton absorption chiller. HECO RT-1 at 40.

Prior to executing the CHP agreements with the HECO Companies, both facilities considered non-utility CHP proposals. However, it is apparent that in signing the CHP agreements, both customers found it preferable for the regulated utility to perform the complete installation, operation, and maintenance of the CHP systems. HECO RT-1 at 41-42.

b. Letters of Support

Customers have publicly stated their support for the HECO Companies' CHP product. For example, customers such as Outrigger Hotels & Resorts, Mauna Kea Beach Hotel and Hapuna Prince Beach Hotels, Hawaiian Building Maintenance (Manager of Harbor Court), and

the Grand Wailea Resort submitted comments to the HECO Companies indicating their strong support for the Companies' involvement in CHP.

c. CHP Inquiries

Despite the suspended status of the HECO Companies' CHP program and the ongoing pendency of this instant docket, customers continue to show an interest in the HECO Companies' proposed CHP program. The HECO Companies continue to receive inquiries from hotel, industrial, commercial, hospital, military, and governmental agencies requesting information and updates on CHP systems and the Companies' CHP program. These customer categories represent nearly all of the large power user customer types on the utility systems. HREA-HECO-IR-7. The HECO Companies have been responsive to these customer requests, while ensuring that customers are notified of the current status of the DG regulatory proceedings, the suspension of our proposed CHP Program application, and the Rule 4 approval process. Even with this information, many customers still request that the HECO Companies' examine their facilities to determine whether CHP seems sensible. HECO RT-1 at 42.

D. Competitors Are Free To Offer Services

Non-utility CHP developers in Hawaii have historically included equipment manufacturers, such as Pacific Machinery, and Hess, and energy services companies, such as Johnson Controls, Honeywell, and Noresco. Response to HREA-HECO-T-6-IR-5. The HECO Companies' new CHP equipment procurement process allows the Companies to purchase equipment from manufacturers such as Pacific Machinery and Hess in a competitive fashion. Response to HREA-HECO-T-6-IR-5. Moreover, the HECO Companies' proposed CHP program does not restrict third parties from offering the same product in any way.

1. Competitive Procurement Process

With the growing interest in CHP in Hawaii, the Companies became aware of the

potential for some CHP projects that will likely require larger units than are covered by the HECO-Hess teaming agreement. Given this potential, as well as the sensitivity expressed by some parties in this docket regarding the ability of CHP vendors to compete for projects, the HECO Companies have developed a new, competitive CHP procurement process.

The objectives of the new procurement process are, among others, (1) to ensure provision of quality CHP products and services, (2) to standardize equipment and designs, (3) to achieve efficiency in the equipment selection process, and (4) to obtain cost savings for the utility and its ratepayers, especially over the life cycle of the CHP installation. HECO RT-1 at 26; HECO T-1 at 32.

Hess agreed to subject its products and services to the new process on a going-forward basis, and the teaming agreement initially entered into between HECO and Hess was officially terminated by letter agreement on October 7, 2004. See HECO R-100; HECO RT-1 at 27.

A Request for Qualifications ("RFQ") was issued to nine manufacturers of CHP equipment on September 10, 2004. The RFQ requested comprehensive information on products, servicing capabilities, project experience, and other criteria. Responses were required to be postmarked by October 1, 2004 and responses were received from seven of the manufacturers. After further review, the HECO Companies anticipate that at least three would be selected as pre-qualified vendors. The number would depend on how broad the vendors' equipment lines are and whether the vendors could suitably supply equipment and services to the variety of CHP projects the Companies may develop. HECO RT-1 at 25.

In general, the HECO Companies plan to use the CHP system from a pre-qualified vendor that best fits the need of a particular project. In some cases, it may not be clear that the equipment of one pre-qualified vendor is the obvious choice for a project, and the HECO

Companies may seek bids from more than one pre-qualified vendor. This would also be the case for large projects.

For example, very large CHP systems may warrant use of equipment bidding due to the cost of equipment. Medium size projects might be bid or assigned to a more limited group of pre-qualified vendors offering either packaged or engineered systems. Small CHP systems might be procured directly from a single qualified vendor of packaged systems. Bidding every small CHP project would generally not be efficient. HECO RT-1 at 25-26.

At the panel hearing, the CA modified its initial competitive bidding proposal and suggested that the utilities consider a competitive procurement process. The CA suggested that such a process be considered primarily for the equipment to be used because if too many items are subject to a competitive procurement process then the result could be a burden that outweighs any benefits. The CA acknowledged that the HECO Companies are already doing this. Tr. (12/8/04) at 220-21 (Herz). Additionally, in the particular case of CHP, the IRP process would not provide useful information to CHP developers. CHP developers already know that facilities with large sustained heating and cooling needs such as hotels and hospitals are the most likely candidates for CHP. HECO RT-1 at 27-28.

2. Non-Utility Vendors

In all cases, non-utility vendors are free to offer whatever products and services they can provide to customers. The HECO Companies will sell energy to their customers on the basis of regulated rates, and non-utility vendors will be free to compete against the Companies' rate structure. HECO RT-1 at 27.

As indicated above, other CHP developers have offered the ownership and operation option. While other CHP developers have offered and may continue to offer third-party system

ownership benefits to customers, the general trend has been for the CHP equipment vendors and energy service companies to move away from the model of owning equipment at a customer site. Response to COM-HECO-DT-IR-3. For example, Hess initially offered the ownership option for CHP installations but is strategically moving away from this as a business model, choosing instead to focus on equipment sales. HECO T-1 at 27; see also Response to HREA-HECO-RT-1-IR-3. Another DG developer, Cummins West, is actively involved in developing CHP projects but does not offer a Cummins-owned option. Response to HREA-HECO-RT-1-IR-3.

In addition, the HECO Companies are not offering the balance of central plant equipment and services, which is the focus of most energy services companies and which in many cases goes hand-in-hand with a CHP project. The balance of central plant equipment and services in most cases dwarfs the CHP component of a customer's facility. For example, the CHP portion of a central plant may represent only 20% of the entire central plant value. Thus, the HECO Companies' CHP projects will be complementary to the central plant services and equipment of the energy services companies. Response to HREA-HECO-T-6-IR-5.

Furthermore, the HECO Companies' CHP forecast in HECO-104 anticipates that a fair amount -- roughly 20% -- of the CHP projects will be independently developed by customers, manufacturers, or energy services companies. Response to HREA-HECO-T-6-IR-5.

3. Market Concentration

In their rebuttal testimonies and/or responses to PUC IRs, the parties opposing direct utility participation in the CHP market made sweeping claims that the HECO Companies' participation in the CHP market would make a "level playing field" impossible for third-parties, due to presumed market concentration as measured by the Herfindahl Hirshman Index ("HHI"). See COM RT-2 at 3-5; see also LOL's Response to PUC-IR-1.

These claims miss the point. The HECO Companies do not have a dominant position in the CHP market – they will start with a zero percent share of the market. If they achieve a substantial share of the market, as they project, it will be because customers want the service the HECO Companies propose to offer (and because other vendors of CHP systems do not want to offer the same service – ownership, operation and maintenance of the CHP systems – and/or cannot persuade CHP customers that such vendors can be relied on to operate and maintain the systems over the long-haul), and not because the HECO Companies’ regulated offerings will somehow unfairly compete with the offerings of unregulated vendors. See HECO RT-1 at 21-25 (responding to HREA and COM claims made in their direct testimonies).

Some ESCO’s might prefer that utilities be excluded from the market, but that is not a reason to do so. The primary purpose of competition is to benefit consumers. Competitive alternatives will be available even if the utility owns and operates a majority of the CHP installations. A market is not made more “competitive” by excluding the preferred option from the market. Response to HREA-HECO-T-6-IR-5; HECO RT-1 at 22.

With respect to the DG/CHP market in Hawaii, the interests of energy consumers – including non-participating customers – should be paramount. Vendors and developers must have suitable competitive opportunities to sell their equipment or offer their services; however that should not come at the expense of Hawaii’s energy consumers as a whole. HECO RT-1 at 59.

Level Playing Field

Those that oppose the offering of utility-owned, customer-sited CHP systems use the term “level playing field” as a slogan, not as a principle. In reality, they want anything but a “level” playing field. First, they want to exclude the utility from “playing” altogether. Second,

they want the PUC to mandate artificially low prices for backup services (i.e., artificially low standby rates) in the name of encouraging customers or third-party owned CHP systems. Third, they want the PUC to mandate artificially high utility rates (in the form of “impact fees” or inverted rates) in order to “encourage” customers to own CHP systems (or to acquire such systems from third parties), regardless of the detriment to non-participating utility customers (i.e., utility customers that are not in a position to take advantage of CHP systems). And fourth, they purport to take these positions in the name of “competition”, even though competition is supposed to benefit consumers, and consumers of CHP services are the ones that have most strongly urged the utilities to offer CHP services (followed by manufacturers of CHP systems).

4. Utility Participation Facilitates Customer Choice

As stated previously, there is sufficient differentiation between the HECO Companies’ CHP offerings and those of the non-utility vendors, such that the HECO Companies’ CHP offering truly represents another distinct option for customers. In a competitive marketplace, customers should be given the opportunity to consider as many options as possible. HECO T-1 at 26.

In fact, by eliminating a CHP alternative that is attractive to the host customer and also provides benefits to other non-participating customers, preventing the HECO Companies from participating in the CHP market as a regulated entity would decrease competition, which ultimately leaves the customer with fewer choices. HECO T-1 at 30. Rather, allowing direct utility participation maximizes competition and facilitates customer choice.

The fact is that numerous customers see value in the HECO Companies’ proposed CHP Program. This validates the Companies’ position that its CHP model is differentiated enough from offerings of non-utility vendors, such that the Companies’ proposed CHP Program truly

represents another distinct option for customers. Customers should be given as many options as possible in order to increase competition and stimulate growth in the DG market. HECO RT-1 at 39.

5. Non-Utilities Have Sufficient Access to Information

a. Non-Utilities Know The Type of Potential CHP Customers

Non-utility vendors have shown that they have adequate access to customer information to offer CHP systems and/or DG to the HECO Companies' customers.

The HECO Companies do not have any advantage over access to customer information. It is widely known that CHP is best applied where consistent demand for heating and/or cooling. As such, it is fairly obvious to any energy services company or CHP developer that the most likely candidates for CHP are facilities with continuous thermal loads such as hospitals, hotels, and certain government facilities. See HECO RT-1 at 27-28; Tr. (12/8/04) at 122-23 (Seu).

In addition, there is extensive general industry data publicly available on the energy profiles of various businesses. Non-utility vendors generally are affiliated or partnered with large national entities such as Johnson Controls, and Noresco, which may have access to customers through their national organizations. Hess was clearly successful in the Hawaii CHP market as an independent third-party supplier of CHP systems. Hess' approach to targeting customers was based upon a solid general knowledge of the types of customers who would be potential candidates for CHP. Hess recognized that large hotels, hospitals, and food processing facilities were logical candidates and focused on those segments of the market. In fact, Hess is the leading player in the market, and was able to obtain sufficient information to enter into several CHP contracts in Hawaii. CHP Application at 71. Therefore, as the Hess example demonstrates, sufficient market information is clearly available to non-utility parties.

b. Customers Have the Necessary Information

The most critical data required for a CHP proposal is the thermal energy use information on the customer's side of the meter. This critical information is derived from the customer itself, not the utility's records. Design of a CHP system requires detailed data concerning how electrical and heat energy is used on the customer's side of the meter, especially in central plant and other key equipment. The HECO Companies have gross electrical consumption data for their customers, but generally do not have thermal usage information, unless, like any energy services company, they have previously worked with a customer via an energy audit. HECO RT-1 at 28; HECO T-1 at 28.

In this respect, every customer has more information available than the HECO Companies and is free to make its own decision whether or not to share that information with any potential CHP developer, including the Companies.¹⁶ As evidence of this fact, Hess was very successful in the Hawaii CHP market in identifying potential CHP customers and working with them to obtain facility data required for a CHP design. Another example of data accessibility is the work performed by energy services companies who obtain detailed facility energy usage data in the normal course of their business. HECO RT-1 at 28.

COM proposed that a utility should provide the names of non-utility companies as an option to the utility installing a CHP system. Tr. (12/8/04) at 153-54 (Kobayashi). However, customers that would benefit from a CHP unit tend to be sophisticated (e.g., customers that have dealt with a utility in the past or energy service companies). As a result, it is unlikely that these customers would believe that the utility is the only option when it comes to installing a CHP

¹⁶ The HECO Companies would have information concerning the customer's electrical energy consumption. However, provided the customer wants to make such information available to a third-party, the HECO Companies have and will provide whatever information they have concerning a customer's electrical energy consumption. Tr. (12/8/04) at 217-18 (Seu).

system. Tr. (12/8/04) at 156-57 (Seu). Moreover, it is unlikely that a non-utility CHP provider would discuss the benefits of cogeneration with a potential customer and then inform the potential customer that the customer could also pursue a utility provided CHP option. Tr. (12/8/04) at 157-58 (Seu).

6. The HECO Companies Must Meet the Same Interconnection Standards (Tariff Rule 14.H) As Non-Utilities

Parties have alleged that the HECO Companies will be able to use the interconnection requirements and review process to unfairly delay non-utility CHP projects or add cost to the projects. These allegations are without basis. The HECO Companies have a standardized interconnection tariff, standards, and review process, in the form of Tariff Rule 14.H. HECO RT-1 at 28-29.

Rule 14.H was properly developed in consultation with the CA, and reviewed and approved by the Commission in Decision and Order No. 20056, filed March 6, 2003, Docket No. 02-0051. The approved Rule 14.H. standards included modifications to the utility's initially proposed interconnection standards based on comments received from the CA and the Commission, and took into account the interests of potential DG customers and other utility customers. Response to HREA-HECO-RT-1-IR-16. In addition, the Rule 14.H interconnection standards were developed based on the then draft IEEE 1547 interconnection standards. Response to HREA-HECO-IR-10. All CHP installations performed by the HECO Companies must meet the same technical standards, and are subject to the same review and study process as non-utility CHP installations. HECO RT-1 at 28-29.

Although the interconnection process is fundamentally sound, HECO also acknowledged that more guidance could be given to help outside parties understand the interconnection review process and requirements. HECO RT-1 at 29. Therefore, the HECO companies are developing

an interconnection guidance document for customers and third-parties, which could be made available on the utility website. See Tr. (12/9/04) at 180 (Seu).

7. Cost-Based Standby Charges

HREA has alleged that HELCO's Rider A for Standby Service would give HELCO an unfair advantage. HREA's concerns are overstated. First, there is no Standby Service provision for the islands of Oahu, Maui, Lanai, or Molokai. The HECO Companies' only standby service provision applies to HELCO on the Big Island. This Rider A provision was both stipulated to by the Consumer Advocate and approved by the Commission after extensive review in Docket No. 99-0207. HECO RT-1 at 29.

Rider A provides customers with opportunities to obtain service at a lower cost than that possible under the regular rate schedules. For example, if DG or CHP customers install the DG or CHP meter required by the rider and take advantage of the options offered by the rider such as the Scheduled Maintenance Option, they may be able to obtain backup service at lower cost than under HELCO's regular rate schedules. Responses to Hess-DT-IR-1; Hess-DT-IR-2; HECO RT-1 at 29.

The Rider A standby service provision was proposed on the Big Island due to HELCO's concern that application of its existing rate schedules to customers with on-site generation would not cover the cost of providing backup service to such customers. HELCO's goal in designing Rider A was to set fair and equitable rates that reasonably recovered the costs of providing standby service from the standby customers who imposed such costs. HECO RT-1 at 29-30. Rider A satisfies this objective in providing standby service at fair, reasonable rates.

Therefore, Rider A should continue to apply to non-utility DG/CHP installations unless it is determined that that would be unfair after HELCO enters the CHP business on a regulated

basis. Thus, in the HECO Companies' CHP Program application, HELCO requested either (1) a finding that continued application of the standby service rider is fair in light of its proposed CHP pricing, or alternatively (2) a determination that application of the standby service rider to non-utility DG/CHP should be made voluntary. HECO RT-1 at 30.

8. Non-Utilities Enjoy Advantages Not Available to the Utility

The HECO Companies do not enjoy any unfair competitive advantage in offering CHP. In many ways, the HECO Companies stand at a competitive disadvantage to non-utility DG developers, especially with regard to large national firms that are established in Hawaii. Most particularly, non-utilities are not regulated and are thus not bound by restrictions and regulations that apply to the HECO Companies. In fact, in almost all areas, the HECO Companies are subject to the same, if not greater, challenges as non-utility developers. HECO RT-1 at 33.

a. May Offer Products, Services, and Rates Without PUC Review

Unlike the HECO Companies, unregulated competitors will have the opportunity to offer their products and services in the CHP market without Commission review of their prices or terms and conditions of service. HECO T-1 at 28. For example, non-utilities have the ability to offer special prices and discounts that they utility may not. In fact, the CA pointed out that "as a regulated entity, Utilities cannot provide discounts or rebates to customers to encourage the customer to purchase DG services from the utility without prior Commission approval of such discounts. In comparison, unregulated third-party vendors do not need to obtain Commission approval to offer discounts or rebates to potential DG customers." CA-RT-1 at 23. Moreover, as the CA recognized in its rebuttal testimony, electric utilities have access to the same equipment vendors as third parties and customers and therefore have no technological advantage for DG equipment. CA-RT-1 at 23. Thus, non-utility developers' knowledge of the HECO Companies'

DG pricing, parity in terms of equipment access, combined with the ability to offer discounts, rebates and prices provides non-utilities the advantage of offering products and services at lower prices than the HECO Companies.

b. Quicker Installation Schedules

To the degree that the HECO Companies must obtain Commission approval for projects accepted under Rule 4, non-utilities may offer more immediate schedules for system installations. HECO RT-1 at 34.

Installation of a CHP system requires a long lead time. Developers must secure construction, operating and necessary environmental permits, in addition to meeting project-specific requirements. HECO Companies' Response to PUC-IR-11. Because most customers seek to install CHP in connection with expansions or renovations of their operations or facilities, there is a special urgency to install the CHP when circumstances require. HECO RT-6 at 4. Given this time constraint, the ability of non-utilities to proceed without prior Commission approval allows them to move the project more expeditiously and thereby offer quicker installation schedules than the HECO Companies. See Response to CA-IR-14.

c. Flexible Offerings

The HECO Companies offer power services to both participating and non-participating DG customers. As such, the Companies must act in the interest of all customers, not just a select few. As a result, the non-utility provider may also have more flexibility in providing additional services and equipment that would otherwise be considered below the line from the HECO Companies' standpoint. HECO RT-1 at 34.

d. Pricing Is Not Made Public

Unregulated competitors also can offer their products and services without open review of their prices or terms and conditions of service, as must be done by the HECO Companies

before the Commission. HECO RT-1 at 34, Response to CA-IR-14.b. The HECO Companies must sell energy to its customers on the basis of publicly available regulated rates. Non-utility vendors will be free to compete against this fully disclosed rate structure. HECO T-1 at 27.

HECO's proposed CHP pricing is fully publicly disclosed, with the limited exception of the precise thermal charge, and non-utility vendors have the advantage of offering savings above the utility's regulated rates. (Non-utility competitors still have access to the base thermal charge. The thermal charge is intended to be the means to deal with project cost differences that derive from the nature of the site available for the installation. As a result, Schedule CHP provides that the base thermal charge may vary by +/- 50%, depending on the characteristics of the particular installation. Nonetheless, the amount of flexibility created by the ability to vary the base thermal charge will be relatively limited. CHP Application at 29.)

e. Need Not Be Concerned With Impacts To Non-Participants

Unregulated suppliers of CHP systems are not required or motivated to consider adverse impacts to non-participants. In general, non-utilities may focus on their own narrow and financial interests. Non-utilities are not required or motivated to consider adverse impacts to non-participants, as the regulated HECO Companies must.

A potential divergence of interests exists between the HECO Companies and a non-utility CHP owner. The utility is accountable not only to the host CHP customer, but also to the non-participating ratepayers and regulatory agencies. This enables non-utilities to offer their CHP systems to customers at lower prices than the HECO Companies. HECO RT-1 at 17; HECO T-1 at 20.

f. Cost of Financing

The HECO Companies do not have unfair access to lower cost financing, as HREA has

alleged. HREA's allegation is overly broad and fails to consider advantages that non-regulated entities may enjoy. For example, the HECO Companies' cost of capital may actually be higher than an unregulated entity's, since non-regulated companies will typically use a higher debt/equity ratio than is appropriate for a regulated utility. Since debt is a lower source of funds than equity, the higher debt/equity ratio results in lower overall cost of capital. Non-utility entities may also have greater flexibility to determine financing on a project-specific basis, whereas the HECO Companies must plan their capital structure for the company taken as a whole. In addition, since the HECO Companies have an obligation to provide electric service, they must maintain their capital structure targets and credit quality in order to ensure access to capital markets for all its projects, not just provide financing for the CHP projects. HECO RT-1 at 32-33.

HREA further contends that the HECO Companies have the advantage of being able to rate-base their costs and therefore are exposed to lower risk than other DG providers. However, rate-basing of costs is dependent upon Commission review and approval. In addition, return on assets in rate base is subject to limitations. Moreover, the assets and financial risk tolerance of the Hawaii utilities may be dwarfed by those of large national or international DG providers, such as Johnson Controls. HECO RT-1 at 33.

g. Conclusion

CHP and DG offered by the HECO Companies can provide significant benefits to both participating and non-participating customers. Nonetheless, some parties to this docket have raised hypothetical concerns surrounding the HECO Companies' participation and its impact on the competitive DG market in Hawaii. HECO RT-1 at 58. However, these concerns are largely based on hypothetical claims. The parties making these claims overlook the fact that the HECO

Companies are regulated entities and seek to offer CHP systems on a regulated basis. As such, all undertakings by the HECO Companies are subject to Commission review and approval.¹⁷

In addition, certain parties appear to be raising concerns about competition primarily from a theoretical standpoint and from the viewpoint of non-utility DG developers and equipment vendors, not energy consumers. Contrary to this viewpoint, the overarching objective of competition is not to protect the interests of competitors, but the interests of consumers. HECO RT-1 at 58. Non-utilities should not be allowed to unreasonably stop or slow utility participation.

Further, the CA supports the utility's involvement in the DG /CHP market and recommended that the HECO Companies be able to own, operate and maintain customer-sited DG. The CA based this recommendation on its finding that the "Utilities' participation will provide customers with more options for the providers of DG to be installed on customer premises, thereby promoting a competitive market for DG[.]" CA RT-1 at 22.

Moreover, the CA concluded that the HECO Companies enjoy no unfair competitive advantage in the DG market. The CA found that "information about customer loads, and the potential to site DG at the customer premise can be obtained by third-party vendors directly from the customer in order to assess whether the customer can benefit from installation of DG at the customer's site. Thus, the utility does not have a competitive advantage in this regard." In addition, because "the electric utilities have access to the same equipment vendors as third parties and customers", the CA found that "the Utilities do not have a technology [advantage] with regard to DG equipment." CA T-1 at 22-23.

¹⁷ The CA noted that if a utility offered DG as a regulated service, the service would be subject to Commission oversight and review. This means the utility would have to apply with the Commission for approval to offer the service, and there would be a period for parties to raise concerns about the proposed service to the Commission. See Tr. (12/8/04) at 64 (Herz).

Further, because the HECO Companies are “a regulated entity, Utilities cannot provide discounts or rebates to customers to encourage the customer to purchase DG services from the utility without prior Commission approval of such discounts. In comparison, unregulated third-party vendors do not need to obtain Commission approval to offer discounts or rebates to potential DG customers.” CA RT-1 at 23. Therefore, the HECO Companies will not benefit from an “unfair advantage” within the DG market, and in some cases, as the CA noted, the HECO Companies will be at a competitive disadvantage as compared to unregulated third-party competitors.

Hess also supports the utilities entering the CHP market and providing the service as a regulated utility service, due in large part to the regulatory oversight that goes along with a utility providing the service as a regulated utility service. See Tr. (12/8/04) at 110 (Gregg).

E. Participants And Non-Participants Are Better Off With Utility Participation

1. Retains Customer Load And Avoids Uneconomic Bypass

The impacts of CHP on non-participating electric utility customers can and should be considered. Non-utility CHP and DG cannot provide all of the same benefits as utility-owned CHP and DG.

Third-party or customer-owned CHP and DG could provide some of the same generic benefits as units owned by the HECO Companies only to the extent that they meet the Companies’ design, operability (including dispatchability), and reliability standards. These generic benefits may include deferral of new central station generating capacity, displacement of utility central station generation fuel and variable O&M costs, deferral of new T&D capacity, and improved T&D system reliability and power quality. However, only CHP or DG offered by the HECO Companies can provide the substantial benefit to ratepayers of retaining customer

load and avoiding uneconomic bypass.

“Uneconomic bypass” occurs when the cost of a customer’s alternative source of electrical energy is lower than the cost of receiving service under the HECO Companies’ applicable standard rate schedule, but higher than the Companies’ marginal cost of providing service. The loss of a significant amount of load from the Companies’ system resulting from uneconomic bypass would have an immediate and significant impact on the magnitude of the Companies’ revenues and a corresponding adverse impact on the remaining customers’ rates. This would lead to higher rates in future rate cases to allow for recovery of fixed costs that were previously recovered through energy sales to customers that subsequently add on-site generation facilities. Thus, independent implementation of DG results in a loss of revenue to the HECO Companies, based on the reduction in demand and energy charges. HECO T-1 at 19; Preliminary SOP at 10.

The energy charge recovers a substantial percentage of the Companies’ fixed demand and customer costs, and the lost revenues far exceed any savings to the Companies’ from variable operating and maintenance costs associated with the customer’s reduction in load and energy. As shown by the analysis completed for the Companies’ CHP Program application, a third party CHP installation would ultimately have a negative impact on non-participating ratepayers. HECO T-1 at 19.

However, as described in the Companies’ CHP Program application, if the HECO Companies install a CHP system instead, it retains the demand and energy charge revenues from the sale of electricity; it gains revenues from the sale of waste heat (therms) and from the facilities charge for the absorption chiller¹⁸; and it incurs the capital, operating and maintenance

¹⁸ If an absorption chiller is included in the project.

costs for the CHP system installation. HECO T-1 at 19.

Therefore, to the extent that the HECO Companies are allowed to own customer-sited DG and a customer chooses to install the Companies' DG system over a self-owned or third party-owned system, the utility and its ratepayers will benefit by retaining the customer load and avoiding uneconomic bypass. T-1 at 16. As a result, nonparticipating customers are better off with direct participation by the HECO Companies.

2. Achieves Greater System Benefits

The HECO Companies' offering of CHP Systems should result in a bigger CHP market and greater system benefits in terms of improving system efficiency and reliability, deferring or avoiding T&D and generating capacity, and deferring or avoiding fuel and variable O&M costs. Further, ownership of CHP systems by the HECO Companies is preferable from a rate impact standpoint.

CHP, whether utility or non-utility, can help satisfy the identified needs for firm capacity. As previously indicated, there is an urgent need for capacity on Oahu. CHP capacity can help satisfy that need. CHP, which is a form of DG, can be considered firm capacity where the utility is able to control the operations of and maintenance quality of the installation. The CHP should also have a reliable fuel supply and an adequate amount of fuel storage. The CHP must provide a compatible monitoring and control system to allow the utility to dispatch the CHP installation to allow for responsiveness to utility system conditions. HECO T-3 at 9.

In HECO's analysis of the proposed HECO Companies' CHP Program, no differentiation was made between utility and non-utility CHP with respect to their firm capacity ratings and their ability to defer firm central-station capacity. In reality, however, the extent to which the Companies can rely on DG to reduce the load that must be served by central station generation as

a result of the installation of multiple DG units would depend on factors such as the relative sizes of the DG units, the reliability characteristics (e.g., forced outage rates) of the DG units, the duration of the DG installations, and the ability of the utility to coordinate scheduled maintenance or to require that scheduled maintenance take place during off-peak periods. Some, but not all, CHP system installations installed by third-parties, and operated and maintained by third-parties or customers themselves, can be expected to be as reliable as those owned by the Companies. The HECO Companies would have much more ability to schedule the maintenance of its own CHP systems. In addition, the Companies' systems are less likely to be disinstalled, on average, than some third-party systems. Further, with the HECO Companies' participation in the CHP market through the its' CHP Program, the CHP market will be expanded.¹⁹ Therefore, direct participation by the HECO Companies brings with it the advantage of additional central-station capacity deferral. HECO T-3 at 9-10.

The HECO Companies would have increased control over a CHP facility owned by the Companies versus a third-party CHP facility. The HECO Companies would have access to data which can determine how the facility will be operated. The Companies would be responsible for the facility's maintenance, and would be able to maintain the facility based on utility standards to increase reliability rather than only consider costs, which may be the case for a third-party CHP facility. Moreover, maintenance of CHP units owned by the Companies can be coordinated with the maintenance of other generation. HECO T-4 at 16; see Response to COM-HECO-DT-27.

In addition, the benefits of real-time dispatchability of the CHP units differentiates the

¹⁹ From the standpoint of the CHP host customer, the option offered by the HECO Companies provides a number of potential benefits, including the ability to leave operation and maintenance of the CHP unit to the utility and the fact that the project would be done by a regulated entity. Since utilities are in a better position to provide customers with the option of having the services provider be the entity that owns, operates and maintains CHP systems, this should increase the market for such systems. HECO T-1 at 21; HECO RT-1 at 19, citing HECO T-1 at 15-21; HECO T-3 at 7-12.

utility-owned and operated CHP systems from third party systems. Real-time dispatchability allows for voltage support and control logic dispatch benefits. HECO RT-1 at 15-16.

Also, the maintenance of utility-owned and operated CHP systems could be coordinated with the scheduling of maintenance outages with distribution system maintenance work. HECO RT-1 at 15-16.

The utility's ability to directly control the operations and maintenance of a CHP system should improve the impacts of CHP systems on utility system reliability and power quality. DG, if not properly designed, operated, maintained and interconnected, can have negative impacts to electric system reliability and power quality. HECO Companies' Response to PUC-IR-6. While a non-utility owner and operator of a CHP system has an interest in properly running its CHP unit, some CHP systems that are installed by third parties may be of substandard design or construction. Some may be operated and maintained by third parties who lack adequate operating and maintenance training or experience. Some CHP systems that are owned, operated and maintained by customers themselves may not be properly or adequately maintained, because power generation may not be within the customer's core expertise. This is in contrast to CHP systems that are installed, operated and maintained by the utilities, whose core business is power generation and who have substantial power generation experience. HECO RT-1 at 14, citing Response to HREA-HECO-T-3-IR-1; see HECO T-1 at 19-21. For these reasons, a non-utility CHP system may not be as reliable as one owned by the HECO Companies.

3. Larger CHP Market With the HECO Companies' Direct Participation

The overall CHP market will be larger only if the HECO Companies are allowed to offer utility-owned and operated CHP services to customers, than if the Companies are permitted to merely facilitate use of the CHP technology. HECO RT-1 at 18-19.

Direct utility participation in the market, meaning utility-owned CHP, would result in greater CHP development overall. HECO RT-1 at 17. The primary basis for the Companies' assessment of a larger CHP market with the Companies' participation is the strong customer support and demand for the Companies' CHP Program. The most critical factor is the sentiment from many facility owners that they do not want to own, operate or maintain CHP systems. For this reason, the HECO Companies' unique model of utility-owned, operated and maintained CHP systems is appealing. HECO RT-1 at 17-18.

In addition, the HECO Companies expect the rate of CHP system installations to be accelerated with active pursuit of their respective CHP Program. The Companies would not simply be displacing CHP system and/or DG installations that might have been installed by a non-utility vendor, such as Hess or others. Rather, the Companies participation will increase the number of CHP system installations. See Response to COM-HECO-DT-IR-5. This expectation that direct involvement by HECO Companies' will create a bigger DG/CHP market stems from customers' knowledge that the reliability and maintenance of the CHP systems will not be their responsibility but will be performed by the utility. Response to HREA-HECO-IR-7.

As discussed previously, the HECO Companies' CHP model is differentiated enough from that of other vendors such that it represents another distinct option for customers. HECO RT-1 at 39. Additionally, customers recognize and appreciate the Companies' long-standing presence in Hawaii. RT-1 at 18. Further, customers have stated that they place high value on the utilities' direct ownership of the CHP systems and accountability as a regulated entity. Letters of support as well as executed agreements evidence customers' support and preference specifically for the utility's offering. See HECO RT-1 at 40; HECO T-1; HECO-105. Based on communications with customers, many customers will pursue the installation of CHP under the

proposed utility model that otherwise would not have. HECO RT-1 at 39 For these reasons, more customers will decide to proceed with CHP if the utility is allowed to offer CHP systems, ultimately increasing the size of the market. HECO RT-1 at 17-18.

Thus, the HECO Companies' direct participation in CHP will effectively increase the size of the CHP market in Hawaii. A larger market also means lesser fuel dependency, thereby working towards fulfilling an important state objective, and is more environmentally friendly. In addition, a larger market will benefit all parties, including equipment manufacturers and energy services companies. HECO RT-1 at 21.

4. Customers Better Off With Well-Established, Recognized, Stable Players

The HECO Companies' stability and accountability is beneficial to the development and overall implementation of CHP in Hawaii. Buyers of any product or service are better off if there are well-established, recognized, and stable players. The HECO Companies have established a longstanding presence in Hawaii and customers trust the Companies' commitment to Hawaii for the long term. Additionally, the HECO Companies earned reputation stems from its responsiveness to customer problems. HECO RT-1 at 18.

Customers appear to have greater confidence in the technology if utility involved. In this way, the utility program validates the benefits for "wait and see" customers who may be uncomfortable with the new program. CHP Application at 15, 68; see HECO T-1 at 24-25.

5. Vendors Want Utility Participation

Vendors have recognized that utility participation will ease accessibility to the DG market. HECO RT-1 at 59. The utility is not in the business of equipment sales. As such, it will be a purchaser of equipment from such vendors. HECO T-1 at 25. Further, the utility's new procurement process will enable it to purchase CHP equipment from a number of manufacturers

in a competitive fashion. HECO RT-1 at 22.

The HECO Companies have eliminated the sole supplier provision originally included in its standard cogeneration energy purchase agreement. See HECO T-1 at 30; CA Question to the HECO Companies, CA-IR-16. Originally, this proposed provision initially stipulated that the Companies would have the right to terminate a CHP Agreement if the CHP customer uses electricity not supplied by the Companies, other than energy from a non-fossil source or from the customer's own emergency generator when operated during emergencies, for limited test periods, or at the Companies' request. To enable customers to have more freedom of choice in how they want to meet their energy needs, the HECO Companies reconsidered and eliminated this provision. HECO Companies Response to CA-IR-16.

F. The HECO Companies Need Authority To Proceed Now

1. Increasing Need For Capacity

HECO has an urgent need for firm generating capacity with the forecasted firm capacity contributions of the proposed CHP Program in combination with the energy efficiency and load management DSM program impacts. This need is due in large part to the record increasing demands for electricity. The next central-station generating unit is currently scheduled for installation in 2009, and it is not expected that a unit can be installed sooner than 2009. HECO RT-3 at 3-4, 7-8, 14.

Therefore, options to mitigate the effects of the higher peak forecasts are necessary. Such options include approval to proceed with a CHP program and/or CHP installations as soon as possible. HECO T-6 at 4-5; HECO RT-3 at 3.

MECO also has a near-term need for the capacity provided by CHP systems. MECO filed its IRP-2 Evaluation Report with the PUC on April 30, 2004. On Maui, with the

continuation of the existing energy efficiency DSM programs, the planned implementation of residential and commercial & industrial load management programs, and the proposed implementation of the Utility CHP Program, it was determined that new firm capacity would be needed in 2006 (Maalaea Unit 18) and 2010 (Waena Unit 1) in the near term. Without the capacity contributions of the Utility CHP Program, Maalaea Unit 18 would still be needed in 2006 but Waena Unit 1 would be needed in 2008. Therefore, utility CHP can have a significant impact on deferring central-station generation on Maui. HECO T-3 at 8.

On Lanai, it was determined that new firm capacity will be needed in 2007. MECO currently plans to install CHP units to satisfy that need for capacity. Should those CHP units not be installed, the central-station generating unit (Unit LL-9) planned for installation in 2013 would need to be installed in 2007. Given the lead times for permitting, engineering, equipment procurement and construction, Unit LL-9 could be installed no earlier than about the 2009 timeframe. HECO T-3 at 8.

In addition, HELCO will benefit from the addition of CHP systems. HELCO filed its IRP-2 Evaluation Report with the PUC on March 31, 2004. This report indicated that with the continuation of the existing energy efficiency DSM programs and the proposed implementation of the Utility CHP Program, firm capacity would be installed in 2009 (Keahole ST-7) and 2017 (West Hawaii Unit 1). Keahole ST-7 will be installed as expeditiously as possible in accordance with a settlement agreement between HELCO and other parties. A land use reclassification process must be completed before the unit can be installed. HECO T-3 at 9.

In the HECO Companies' CHP Program application to the Commission, filed on October 10, 2003, in Docket No. 03-0366, it was estimated that about 2.7 MW could be installed in 2004 on Oahu and that increasing amounts of utility CHP capacity could be installed in subsequent

years. Docket No. 03-0366 was suspended on March 2, 2004 by the Commission's Order No. 20831, and no utility CHP capacity will be installed in 2004. In addition, at the time of filing their rebuttal testimonies, the HECO Companies were aware of no non-utility CHP system projects that had been installed on Oahu in 2004. As a result of the suspension of the Rule 4 Applications filed by HECO and HELCO, it is now expected that no utility CHP systems will be installed before 2006, at the earliest.

HECO in particular, and the HECO Companies in general, need to be able to proceed with their CHP Program and/or to proceed with CHP system installations under Commission approved Rule 4 contracts, in order to acquire additional generating capacity. HECO RT-3 at 3. "Since the next generating unit cannot be installed by 2006, it is important that the regulatory proceedings for HECO's proposed load management programs and any proposed individual CHP projects move as quickly as possible. Expedient approval of these initiatives will enable HECO to begin its implementation efforts to begin acquiring the peak reduction benefits of these initiatives in order to mitigate the effect of the higher peak forecast on generating system reliability." HECO RT-3 at 2.

In addition, adding CHP systems now will be even more beneficial than was estimated in the CHP Program analysis due to the increasing demand impacts on the HECO system as noted in HECO's March 31, 2004 Adequacy of Supply letter to the Commission. CHP capacity that can be brought into service between the present time and 2009 should have a significantly higher avoided capacity value than indicated in the original economic analysis for the CHP Program. This is because the CHP Program analysis assumed that there would be no capacity deferral benefit before 2009, as additional capacity was not expected to be needed until 2009. HREA-HECO-RT-1-IR-4.

2. The Utility Must Be Able To Meet The Needs And Expectations of Customers

The HECO Companies need authority to proceed with their proposed CHP offering in order to meet the reasonable needs and expectations of their customers. HECO T-6 at 5. There are currently a number of commercial customers that are ready to proceed now with CHP system installations. Some of these customers want to install CHP in connection with expansions or renovations of their operations or facilities. HECO T-6 at 5.

Additionally, allowing the utility to proceed would avoid negative impacts on non-participating customers due to the unnecessary loss of revenues if a customer installs a third-party CHP system. HECO T-6 at 5. Some customers may install third-party CHP systems rather than continue to wait for regulatory proceedings to conclude in "due course". As discussed in above, the HECO Companies' proposed CHP Program is predicated not only on offering new energy-efficient options to commercial customers and addressing load growth, but also on protecting the interests of the Companies' non-participating customers. Simply stated, non-participating customers should be better off when the Companies own, operate and maintain cost-effective customer-sited CHP systems, than when the systems are installed by third-parties (and the electric revenue displaced by such systems are lost). HECO T-6 at 5.

Given the long passage of time since their proposed CHP program was initially filed²⁰ and the HECO Companies' resulting inability to implement this general program, the Companies requested authority to proceed with CHP projects with customers under special service contracts (termed Rule 4 contracts) as soon as possible.

²⁰ The HECO Companies filed their Application on October 10, 2003 in Docket No. 03-0366 requesting approval of each Company's proposed CHP Program and related tariff provision. Implementation of the CHP Programs was scheduled to begin in 2004, if authorized by the Commission, but has been suspended and remains on hold.

In opening this proceeding, the Commission indicated it might consider related matters on a case-by-case basis. In light of the Commission's stated position, the HECO Companies' capacity needs, the needs of their customers, and the benefits offered by cost-effective CHP system installations, including those to nonparticipating customers, the Companies continued to develop a limited number of CHP projects for consideration by the Commission for review and approval under Rule 4, primarily where there is special urgency on the customer's part to implement the project. HECO T-1 at 32; HECO RT-6 at 4-5. For example, a facility may be undergoing major renovation (such as those planned for Pacific Allied and Sheraton Keauhou) or expansion. See HECO T-1 at 32-33; RT-1 at 41. Implementation of a CHP system is best done at the same time as a new central plant is constructed. HECO T-1 at 32-33. In this respect, suspension of the Companies' proposed CHP program has affected customers as they have not been able to proceed with implementation of CHP systems.

Further delaying the start of utility-owned CHP installations for any significant period of time could irrevocably harm ratepayers, the Companies and CHP Program customers. Particularly on Oahu, load is growing faster than was anticipated. Even with central station deferral benefits expected from their CHP programs, the need date for new generation is sooner than when new generation can be added to the system, and the installation of utility-owned CHP systems can help mitigate reserve capacity shortfalls. In addition, the HECO Companies should be allowed to proceed now with CHP installations for customers that are renovating or expanding their facilities.

II. PLANNING ISSUES

A. ISSUE #1: WHAT FORMS OF DISTRIBUTED GENERATION (E.G., RENEWABLE ENERGY FACILITIES, HYBRID RENEWABLE ENERGY SYSTEMS, GENERATION, COGENERATION) ARE FEASIBLE AND VIABLE FOR HAWAII?

1. Definition Of Distributed Generation

As defined by the Commission in this Docket, distributed generation involves the “use of small scale electric generating technologies installed at, or in close proximity to, the end-user’s location.” This definition is sufficient for purposes of this docket focusing on distributed generation. HECO Companies’ Response to PUC-IR-4.

The HECO Companies have not attempted to define “small” for purposes of this proceeding, but note that “small” should be construed relative to the utility’s system loads, and to the loads of large customers. In general, there should not be a size limit on the right of a DG unit to interconnect to a utility’s system, provided that the DG unit is not exporting power to the utility system.²¹ The impact of a DG unit on a utility’s system is project-specific and would depend on factors such as size and location of DG unit, and size of the utility system. Tr. (12/8/04) at 52-53 (Seu). Moreover, before the HECO Companies could determine whether they would support a general limit on the size of DG units, the HECO Companies would have to look at the purpose of a proposed limit. Tr. (12/8/04) at 38-39 (Seu).

Cogeneration facilities at or near a steam host’s site that are installed primarily for the purpose of supplying electricity to the utility, that use the utility’s transmission system to

²¹ Hess was not in favor of a size limit since the size of the DG unit is determined on a case-by-case basis. The size of the DG unit would be based on the customer’s load. Tr. (12/8/04) at 37 (Gregg).

transmit electricity to the grid for sale by the utility, or that otherwise act like central station generation, should not be considered distributed generation for the purposes of this proceeding.²²

2. Feasible And Viable DG

Although many forms of DG may exist, not all will be feasible and viable for Hawaii. In order for a form of DG to be “feasible and viable for Hawaii”, it generally will have to be (1) technically feasible, (2) commercially available, (3) economically viable (i.e., cost-effective versus other options), (4) price competitive in the short-term, (5) sustainable in the long-term (i.e., backed up by adequate infrastructure support with respect to O&M and fuel), (6) able to address site-specific constraints (i.e., with respect to permitting) and (7) able to meet the needs of customers. HECO T-1 at 7.

With respect to the factors that should be considered in assessing what forms of DG are feasible and viable in Hawaii, KIUC also proposed that dispatchability, ability to be a reliable and constant supply source, and in representing a fully commercialized technology are factors that should be considered in addition to those discussed by the HECO Companies. Tr. (12/8/04) at 25 (Friedman).

Depending on the intended application, the forms of DG that are “feasible and viable” may differ. An important consideration with respect to customer-sited DG applications is that the decision to install customer-sited generation will be made by the customers who allow installation of such generation. As a result, it is customers participating in this market who will

²² The HECO Companies and the CA propose that DG units that export energy to a utility’s system should not be the subject of this docket. Under certain situations, a DG unit could have the right to export energy to a utility’s system (or be credited with exporting energy to a utility’s system) pursuant to laws, rules, and/or regulations (e.g., Public Utility Regulatory Policies Act of 1978, as amended (“PURPA”), Commission’s Standards for Small Power Production and Cogeneration in the State of Hawaii, codified in Title 6, Chapter 74 of the HAR, HRS §269-101 to §269-111 - - net energy metering law, HRS §269-27.2 - - non-fossil fuel generation). Tr. (12/8/04) at 52-54.

ultimately determine whether a form of DG is “feasible and viable for Hawaii”.²³ HECO T-1 at 8-9. The HECO Companies must determine what is cost-effective for the Companies to do as utilities, which must take into account market realities. The HECO Companies must also consider the impacts and integration of third-party owned and customer-owned DG on and into utility systems based on what customers actually choose to do. Response to CA-IR-5.

The following is a brief description of each “criteria:”

1. Technically feasible: when that technology has been built, tested, and considered as a proven technology by industry peers.
2. Commercially available: when DG equipment of that technology is listed in a reputable manufacturing company catalog with the ability to order multiple units of that equipment along with O&M procedures and product warranties. Prototype equipment would not be considered to be commercially available.
3. Economically viable: when DG life cycle costs are lower or relatively low when economically compared with other energy options.
4. Price competitive: when the costs of meeting the “customer’s” energy needs from DG are comparable to the customer’s costs of other forms of energy sources.
5. Sustainable: sufficient infrastructure and product support are available to keep the DG installation operating over the long-term.
6. Able to address site-specific constraints: the DG can be installed, operated, and maintained within the specific constraints of a project site, for example due to limited space, sensitive neighbors, or environmental permitting restrictions.

²³ The customer’s acceptance of DG will be an important factor in determining the feasibility and viability of DG in Hawaii, especially for customer-sited DG. A customer may take into consideration other factors besides those discussed by the HECO Companies (e.g., environmental

7. Able to meet the needs of customers: the DG application must be appropriate to the customer need, which will vary depending on such factors as the nature of power usage and customer type.

For customer-sited DG, customer preference and market demand will play the most significant role in determining whether a form of DG is feasible and viable for Hawaii. For customer-sited DG applications, the decisions to install customer-sited generation, the type of technology, and the ownership option, will be made by the customers allowing the installation of such generation. As a result, the seventh criterion, the ability of the DG to meet the needs of the customer, is an absolute requirement for customer-sited DG. HECO RT-1 at 38; HECO Companies' Response to PUC-IR-7.

Although all of the above listed factors are important, individual customers may weigh factors differently. Customers generally will not consider technologies that are not technically feasible or commercially available or that are not able to address site-specific constraints (although this factor will vary among customers because it is site-specific). Some customers will be more concerned with life-cycle costs, while others will focus on upfront costs. Reliability is a more important customer need for some customers than for others, because of the differences in their business operations. Some customers may give more weight to externalities.

These are not the only factors that customers will take into account in deciding to install customer-sited generation. They will consider whether they are expanding or renovating their operations. They also will consider the vendors and types of vendor offerings available. HECO RT-1 at 38.

impact considerations) in determining whether the customer will allow a DG unit to be sited on its premises. Tr. (12/8/04) at 28-29 (Seu).

With regard to energy, the primary focus of commercial and industrial customers is on controlling costs. Hence, customer-sited generation has to provide sufficient economic value to the customer. Certain customers also require special electric service reliability, such as hospitals, and they may choose to install appropriately equipped on-site generation to meet those needs. Finally, all customers will require that customer-sited generation be compatible with their existing operations. For example, a resort hotel will consider noise and aesthetics in its decision to install a generating unit. HECO RT-1 at 38.

3. Types Of DG Available

a. Fossil Fuel Based

DG technologies that are fossil-fuel based include internal combustion engines, combustion turbines, microturbines, and fuel cells, although some classify fuel cells as renewable given the potential for them to run on hydrogen generated from renewable resources. HECO Companies' Response to PUC-IR-10.

Internal Combustion Engines

Internal combustion engines and combustion turbines are commonly used fossil fuel technologies. These engines can be operated on diesel, propane, natural gas, or synthetic natural gas ("SNG"). Currently, internal combustion engines are the most commonly used type of DG technology. This is primarily due to the maturity of the technology, availability in a wide range of sizes (from under 10 kW to over 10 MW), relatively compact size, relatively low cost, durability and broad number of suppliers. In addition, internal combustion engines are firm sources of power. HECO T-1 at 10-11; HECO Companies' Response to PUC-IR-10.

However, Hawaii's existing infrastructure can only support the availability of diesel, propane, and SNG fuels on a "macro" basis in Hawaii, although SNG is not available on all of the islands. On a project-specific basis, the particular fuel used for a DG installation is

dependent upon the technical and economic feasibility of connecting into an existing fuel supply system or construction of a new one, site specific permitting constraints (i.e. for air permitting), and the overall economics of the project. Drawbacks for internal combustion engines are primarily associated with environmental issues, such as emissions, noise, fuel spills, and aesthetics of an exhaust stack. HECO T-1 at 10-11.

Combustion Turbines

Combustion turbines are also commercially available. However, combustion turbines are not as commonly used as the internal combustion engine, primarily because they are not available from as many manufacturers and in as great a range of sizes as is available for the internal combustion engine, being typically above 1 MW in size. In general, however, combustion turbines have similar positive and negative aspects as the internal combustion engine. HECO T-1 at 10-11; HECO Companies' Response to PUC-IR-10.

b. Renewable Energy Generation

DG technologies that are renewable include wind turbines and photovoltaic ("PV") systems. (HECO-101 provides detailed descriptions of these technologies.) Both technologies are commercially available and in use. HECO T-1 at 9. However, renewable technologies are not as common in small-scale DG applications as internal combustion engines, due to practical siting challenges for wind turbines and relatively high costs of photovoltaics. HECO T-1 at 9. In addition, unlike fossil-fuel based technologies, renewable DG technologies are considered "as-available" energy sources, and are not considered to be firm capacity. Response to CA-IR-23. Therefore, the utility cannot rely upon as-available generation to provide capacity and energy on demand when needed by the utility. CA-T-1 at 30.

While applications for renewable energy DG may be currently limited, applications for DG renewable energy may increase as PV and other renewable technologies become more cost-effective. Response to HREA-HECO-T-1-SIR-1.

Wind Turbines

Wind turbines convert the kinetic energy in wind into mechanical energy and electricity. HECO RT-2 at 12-13. As a renewable technology, wind turbines produce no emissions and require no fuel infrastructure. Additionally, wind turbines are generally cost-effective and are a proven technology. As such, equipment and services for wind turbines are commercially available. However, wind turbines present certain disadvantages, including the provision of intermittent, rather than firm energy, and limited opportunities for DG application due to siting constraints. HECO T-1 at 11; see Response to HREA-HECO-T-2-IR-5. For example, adequate wind resources may not exist at a DG site, installation of a wind turbine may not be suitable for a dense urban environment where DG is desired, or zoning restrictions may limit the height of the wind turbine tower and distances to adjoining property lines. In addition, wind power may present negative externalities such as aesthetics, noise, interconnection and safety, and bird strikes. HECO T-1 at 11; HECO T-2 at 15-16.

Small wind turbines differ from large commercial wind turbines. Unlike small DG wind turbine systems, which are smaller installations located at the end-user's location, commercial wind farms must be connected to the electric utility grid at transmission or sub-transmission voltage levels to provide bulk power to the utility grid. Currently, the trend for wind turbine design and size is moving towards larger megawatt-sized variable speed turbines with power electronics. Thus, because of economies of scale, wind farms with large wind turbines may be economically feasible. DG applications may require use of smaller wind turbines, which may be less efficient than their larger counterparts. HECO T-2 at 17-18.

Photovoltaics

In general, PV systems convert sunlight directly into electricity. HECO T-2 at 2. PV systems present a number of benefits such as commercial availability from many manufacturers. HECO T-2 at 4. In addition, PV systems cause no emissions and require no fuel or fuel infrastructure, only sunlight. HECO T-1 at 11; HECO T-2 at 4. Other benefits of PV systems are that they are modular, are a solid state technology (requires no moving parts) and are quiet. HECO T-2 at 4.

However, as a renewable technology, PV provides intermittent energy as its capability to provide power is limited to hours when adequate sunlight is available. As a result, PV systems cannot provide electricity at night and cannot operate efficiently in the shade or during cloudy periods. HECO T-2 at 4-5.

Additionally, PV is relatively expensive and costs more than many other electric generation technologies. For example, PV systems range in cost from \$9,000 to \$13,000 per kW in Hawaii, whereas diesel-fired CHP costs \$2,000 per kW. HECO T-2 at 4; Response to HREA-HECO-T-1-SIR-1. Further, PV may pose substantial siting challenges. A large PV system (> 100 kW) requires approximately 5 to 10 acres of relatively flat land with sufficient sunlight exposure per MW. Moreover, PV requires replacement of solid-state components that may need replacement as early as every five years. See HECO T-2 at 4-5.

On the other hand, PV systems coupled with energy storage, typically used for off-grid applications, are commercially available. Response to CA-IR-23. PV systems with energy storage presents the same advantages and disadvantages as PV systems without energy storage. However, PV with energy storage systems allows for the production of power at night or during cloudy periods when adequate sunlight is not available, through the use of a storage system, such as a battery bank. As a result, PV with energy storage could possibly be used for grid-connected

systems and can be considered firm capacity, depending on the utility's ability to control the operations of and maintenance quality of the installation. Importantly, however, proper operation and maintenance of the storage system is required to maintain efficient performance. Moreover, due to the addition of the storage system, PV systems with energy storage are more expensive than PV systems without energy storage.

c. **Developing Technologies**

Microturbines and fuel cells, while possibly meeting the criteria for firm capacity, are still in the formative stages of the product development cycle. As such, their use is currently very limited and they are not considered feasible and viable for Hawaii at this time. HECO T-2 at 9; Response to CA-IR-23.

Microturbines

Microturbines are a developing DG technology that is in the preliminary stages of commercial availability. Microturbines are generally smaller than 100 kW in size and are targeted for emergency power, standby power, peaking, cycling, baseload, and cogeneration applications. Microturbines are suited for DG applications because of their compact size, low emissions, and cycling capability. HECO Companies' Preliminary SOP at 3.

However, major disadvantages associated with microturbines may include low efficiency, unproven reliability, noise, and high cost. Currently, microturbines are being developed to use a variety of fuels, primarily natural gas, propane, diesel, methanol, bio-gasses, and gasoline. In Hawaii, diesel, propane, and synthetic natural gas would be the most logical fuel choices because of their availability and relative cost. HECO Companies' Preliminary SOP at 3.

Fuel Cells

A fuel cell is an electrochemical device that converts the chemical energy of a fuel cell directly to DC electricity. HECO T-2 at 8. Currently, fuel cells and its fuel infrastructure are not

used on a commercial basis as they are not commercially available or economically viable.

HECO T-2 at 22.

Despite the very limited use of fuel cells, fuel cells may present advantages including: high efficiency; modularity; co-generation potential; site flexibility; environmental acceptability; nominal permitting requirements; small land requirements; and potential fuel flexibility. On the other hand, the disadvantages of fuel cells are many. For example, the equipment is currently expensive and not commercially available. In addition, in Hawaii, the cost for the fuels that can be used in the currently available fuel cells is also high and the life of a fuel cell stack is limited to 5 years or less. Further, in general, the fuels cell stacks are very sensitive to contamination by certain chemicals, such as sulfur and chloride, that can poison or drastically reduce the life of the fuel cell stack. Certain fuel cell stacks, such as proton exchange membrane fuel cell stacks, are also sensitive to carbon monoxide. Moreover, the longevity, reliability and cost of the fuel cell units all must be proven before fuel cells enter into widespread commercial use and the infrastructure of the fuel system must be developed as well as the fuel cell system itself. HECO T-2 at 9, 12.

d. Evolving Technologies

The technologies discussed above are not meant to be an exhaustive list of all technologies that the HECO Companies deem to ever be feasible and viable. Technologies are evolving, and it is entirely possible new forms of DG will arise over the next decades that do not currently fit the criteria. Response to CA-IR-6.

The HECO Companies regularly monitor new technologies and trends in the power industry, and support research or demonstration projects to evaluate the feasibility of such new technologies. The Companies perform these activities both through their membership in industry organizations such as the Electric Power Research Institute ("EPRI") and directly in utility

projects. As an example, HECO recently conducted a micro turbine demonstration project at its Ward Avenue facility to evaluate the feasibility of the technology when firing diesel. As a second example, the HECO Ward Avenue facility is currently serving as a host site to the Hawaii Natural Energy Institute's Hawaii Fuel Cell Test Facility. Response to CA-IR-6.

4. Definition of DG Should Not Include DER or Other Demand Side Technologies Or Systems

Some of the parties proposed that distributed renewable energy generation resources like PV be treated like demand-side measures that are included in demand-side management ("DSM") programs, and that the utilities pay incentives to customers to install such measures.²⁴ As is indicated below, distributed generation, whether fueled by renewable energy resources or by fossil fuels, is a supply-side resource, not a demand-side resource. HECO Companies Response to PUC-IR-5. Further, distributed renewable energy generation resources already receive substantial incentives, in the form of federal and state government tax credits (to help buy-down the cost of renewable technologies) and state laws such as net energy metering and renewable portfolio standards (to help stimulate renewable development). HECO RT-2 at 10, HECO T-2 at 24-25.

"Distributed generation" should refer to generation technologies only, in other words resources that supply energy. DG is broadly understood to be a subset of distributed energy resources ("DER"). Other DER subsets, such as DSM and energy storage technologies, are not DG. HECO Companies' Response to PUC-IR-5.

DG should not be confused as a DSM measure. Extensive testimony was provided to explain why DG is not similar to DSM measures or programs. HECO RT-1 at 42-48. DSM

²⁴ For example, COM alleges that all privately used consumer energy technologies have customarily been treated by HECO and the utility industry as demand-side resources. COM RT-1 at 28. COM

Programs are designed to influence the use of energy. DG is a resource that supplies energy. The distinction between the use and supply of energy was made by the Commission in its Framework for Integrated Resource Planning (“IRP”) (Decision and Order No. 11630, Docket No. 6617). (HECO RT-1, page 43.) The Companies maintain that the inclusion of the word “uses” in the IRP Framework implies that the framework intended to apply the term “DSM” only to those measures that affect how companies use energy, not how it is generated. HECO Response to PUC-IR-5.

Differences also exist between DSM measures and DG resources in terms of ownership, operation and maintenance. The measures installed pursuant to energy-efficiency DSM programs generally are replacements for equipment, fixtures, or processes that are used in the customer’s business or home, such as energy efficient lighting, or motors, or water heaters. Thus, DSM measures generally can be “operated” and “maintained” (to the extent that is necessary) using the O&M expertise or resources that the customer already has. These DSM measures, which allow electricity to be used efficiently, or substantially reduce the use of electricity (such as is the case with solar water heaters, where electricity is the back up water heating source), are distinctly different from DG resources, which generate electricity. The option of utility ownership of a DG resource, such as a CHP system, is desirable to customers precisely because they often do not want to own, operate and maintain generating resources. (HECO RT-1 pages 43-44.) HECO Response to PUC-IR-5.

Major differences exist between the Companies’ proposed CHP Program and their DSM programs, such as the Residential Efficient Water Heating (“REWH”) Program, which provides

claims that treating HECO’s CHP program as a supply-side resource would obscure the benefit of incentivizing CHP systems with DSM rebates. COM RT-1 at 28.

incentives to customers who install solar systems. Some major differences between these two types of programs include:

1. CHP systems produce electricity, generally cost in the hundreds of thousands of dollars, are operated, and require extensive periodic maintenance. (See response to TGC/HECO-SOP-IR-24, subpart b.) Solar systems heat hot water, generally cost only several thousand dollars, and do not require operation or extensive maintenance.
2. There are a limited number of vendors offering CHP systems, and to date there have been only a small number of CHP systems installed in Hawaii, and the Companies expect that their involvement in the CHP market on a regulated basis will result in an expanded market. Under the Companies' REWH Programs, over 20,000 solar systems have been installed statewide, and it is estimated that there are some 80,000 solar systems in operation statewide, indicating there is a broad market with numerous solar vendors.
3. In the design of the Companies' CHP Program, because of the more limited opportunities for customers to participate in the CHP Program (i.e., many commercial and industrial customers do not have a use for the waste heat from the CHP systems that precludes them from participating in the program), the impact to non-participants was explicitly taken into consideration such that participants as well as non-participants benefit from the Companies' involvement in the CHP market on a regulated basis. The impacts to non-participants were accepted in the REWH Program because there are more broad based opportunities for customers to participate in the program, and also because the program furthers the State's goals of renewable energy and a reduction in the use of fossil fuels.

4. If the Companies provided an incentive to customers to install a CHP system, and had no further involvement with the operation and maintenance of the CHP system, there would be no assurance that the CHP system was being properly maintained in order to provide the expected reduction of the peak on the utility system from the CHP system operation. Solar systems, as stated above, do not require extensive maintenance and have a reasonable track record with providing the expected reduction in electricity usage and corresponding system peak reduction.
5. The Companies' CHP Program entails utility ownership of a limited number of CHP systems in order to achieve the intended results. It would be impractical for the Companies to own thousands of solar systems. HECO Companies' Response to PUC-IR-5.

Further, unlike the Companies' proposed CHP Program, DSM programs are not currently designed so as to avoid any "burden" on non-participants. Incentives are paid to customers for "cost effective" programs, even where individual customer rates are increased when the utility recovers the program costs and lost contributions to fixed utility costs. (On a total customer basis, energy bills should be reduced because of the reduction in energy use.) Whereas all customers benefit from the demand savings (i.e., the kw savings) resulting from DSM program measures, participating customers are the primary beneficiaries of the energy savings. (At the same time, there is a benefit to the State as a whole, including non-participating customers, due to the reduction in the use of oil.) HECO Companies' Response to PUC-IR-5.

As is indicated above, one of the primary justifications for the current approach to DSM programs is that there is a broad array of DSM measures available under the DSM programs, and a broad opportunity for customers to participate (and to directly benefit from bill savings).

HECO Companies' Response to PUC-IR-5.

In the case of CHP systems, all customers will benefit from the capacity deferral benefits that can be obtained from the installation, operation and maintenance of energy-efficient CHP systems, but only a relatively small number of customers have the opportunity to directly achieve energy cost savings through the installation of such systems on their sites. Thus, unlike the case with DSM programs, one of the key objectives of the CHP program is to avoid burdening non-participating customers. (HECO RT-1, pages 46-47); HECO Companies' Response to PUC-IR-5.

B. ISSUE #2: WHO SHOULD OWN AND OPERATE DISTRIBUTED GENERATION PROJECTS?

1. Ownership And Operation Options

In determining who should own and operate DG, it is useful to distinguish between different categories of DG:

1. Customer-sited emergency generation: Generally owned by customers, although utilities offer a utility-ownership option in a few jurisdictions;
2. Substation-sited peaking generation: owned by utilities;
3. Substation-sited generation to address case-specific transmission and/or distribution ("T&D") problems: Owned by utilities;
4. Customer-sited CHP: May be owned by customers, third-party vendors/equipment lessors, or utilities;
5. Customer-sited cogeneration: Generally owned by customers or independent power producers, although utilities may consider owning certain facilities or having a partial or indirect ownership interest in such cogeneration;
6. Off-grid, customer-sited generation: Generally owned by customers; and

7. Customer-sited generation operated in parallel with the utility grid: May be owned by customers or third-party vendors/equipment lessors or by utilities (if such ownership is a cost-effective utility option).

Where the customer owns the DG, or acquires the DG through an equipment lease, the customer generally is responsible for O&M, or can contract O&M to a third-party vendor. Where a third-party vendor owns the DG, the third-party vendor generally would be responsible for O&M, unless the vendor subcontracts that responsibility to a third-party service provider, or the vendor's contract with the customer allocate some or all of the responsibility to the customer. HECO T-1 at 13-14.

2. Utility's Plans With Respect To Above Ownership And Operation Options

The HECO Companies' plans with respect to the seven DG applications are as follows:

1. Customer-sited emergency generation: The HECO Companies do not currently provide such a service. See Response to CA-SOP-IR-12. A few utilities have offered to provide emergency generators under a tariff program, with or without reserving the right to operate the "emergency" generators for peaking purposes when the utility is short of capacity. However, there are a number of practical issues with trying to use emergency generators for peaking purposes.²⁵ Should the HECO Companies decide to evaluate this DG application in the future, these issues would need to be adequately addressed.

²⁵ For example, the air permit obtained by customers to operate their emergency generators may not permit operation in parallel to the grid. That is, the units may be permitted to operate only for testing or to serve the customers' internal loads only in the event of an emergency. In addition, the air permit may allow the unit to operate for only a very limited number of hours for testing and bona fide emergencies only. Even if the air permits did allow the units to operate for a significant number of hours, neighbors of the customers with the emergency generators may object to operation of the units for more than testing and emergencies. Their objections may be based on noise, emissions, and increased truck traffic due to additional fuel deliveries. Further, the HECO Companies would have no control over the testing and maintenance practices for the emergency generators and thus would

2. Substation-sited peaking generation: The HECO Companies intend to use DG for this purpose under appropriate circumstances, as was done with HELCO's four 1-MW dispersed generators.

3. Substation-sited generation to address case-specific T&D problems: The HECO Companies intend to use DG for this purpose under appropriate circumstances, as was done with MECO's Hana generators.

4. Customer-sited CHP systems: The HECO Companies' current focus with DG is to offer such CHP systems, subject to Commission approval, under circumstances where it is cost-effective for the utilities to do so, and where offering such a service does not unduly burden non-participating customers.

5. Customer-sited cogeneration: The HECO Companies do not intend to offer such systems, but would consider DG for this purpose on a case-by-case basis. The HECO Companies would consider owning and operating an industrial customer-sited cogeneration facility that sells electricity and process steam to the industrial host, and that delivers electricity in excess of the host's requirements to the utility. Generally, however, such a project should be considered outside the scope of this proceeding given the probable size of such a facility and the transmission of electricity from the facility to the utility's grid.

6. Off-grid, customer-sited generation: The HECO Companies do not intend to offer such a service.

have no control over their availability or reliability. Moreover, the Companies may not have adequate dispatch control over the units since the emergency generators would be designed for a customer's specific emergency needs and not necessarily for the needs of the grid. HREA-HECO-IR-9.

7. Customer-sited generation for power purposes only: The HECO Companies do not currently offer such systems, but would consider DG for this purpose on a case-by-case basis if such an application becomes a cost-effective utility option. HECO T-1 at 14-15.

3. Customer Preference And Support For Utility-Owned DG Cannot Be Ignored

Utility participation in the CHP market provides utility customers with one more option to meet their energy needs – in the words of one customer; it means “one stop shopping”. Customers want to focus on what they do best and let the utility do what it does best: (a) own, operate and maintain power facilities; (b) manage fuel procurement for power facilities; and (c) manage electrical system interface. Utility involvement in CHP will result in an overall larger CHP market in Hawaii, due to customer support and the uniqueness of the HECO Companies’ offering. HECO T-1 at 17.

For customer-sited DG applications, the decisions to install customer-sited generation, the type of technology, and the ownership option, will be made by the customers allowing the installation of such generation. They will make the decision to install DG only after determining that the DG is able to meet their needs. Customers also consider key factors such as technical feasibility, commercial availability, site-specific constraints, life-cycle costs, up-front costs, reliability, externalities, expansion or renovation undertakings, vendors and differences in vendor offerings.

Customer preference and support will effectively determine the DG market’s size and success in Hawaii. Therefore, customer preference and support cannot be ignored. With respect to the Utility’s proposed CHP program, it is evident that numerous customers see value in the HECO Companies’ proposed CHP Program. This validates the Companies’ position that the utility CHP model is differentiated enough from offerings of non-utility vendors, such that the

proposed utility CHP Program truly represents another distinct option for customers. Customers should be given as many options as possible in order to increase competition and to stimulate growth in the DG market. Based on communications with customers, many customers will pursue the installation of CHP under the proposed utility model that otherwise would not have. Thus, direct utility participation in CHP will effectively increase the size of the CHP market in Hawaii.

4. Utility CHP Participation Will Benefit All Utility Customers

The HECO Companies' provision of CHP systems on a regulated basis will ensure that the interests of all customers are taken into consideration. Benefits should be available to the customers for whom DG/CHP is a viable option, but the interests of other non-participants should be protected. The independent implementation of DG/CHP results in a loss of revenue to the utility and all customers are then ultimately adversely impacted by the lack of contribution to fixed costs from the customers that implemented third-party DG/CHP.

a. Quantitative Analysis

The HECO Companies performed an extensive economic analysis in support of their CHP Program application in Docket No. 03-0366, considering all the numerous revenue and cost impacts, to show that the Companies' ratepayers as a whole are better off with utility participation. This analysis showed a positive net present value benefit for all of the Companies, indicating the CHP Program is expected to be cost-effective from a Utility Cost Test perspective. The HECO Companies' economic analysis methodology, assumptions, and results are explained in detail on pages 51 to 61 of the CHP Program application in Docket No. 03-0366, and were addressed by Mr. Sakuda in HECO T-3. (In the Rule 4 contract filings in Docket Nos. 04-0314 and 04-0366, HECO and HELCO indicated that various revisions needed to be made to this analysis such as updating heat rate assumptions and correcting an understatement of facility fee

revenue. In light of HECO's current need for additional generation, and its expected inability to add central station generation before 2009, the updated analysis also should identify the method used to value the generation deferral benefit of CHP in the 2006-2009 timeframe.)

As described in the HECO Companies' CHP Program application, if the Company installs a utility CHP system instead, it retains the demand and energy charge revenues from the sale of electricity (less the reduction, if any, in energy usage and demand due to the use of waste heat to displace electricity, and less the price reduction to reflect the benefits of customer-sited generation); it gains revenues from the sale of waste heat (therms) and from the facilities charge for the absorption chiller (if an absorption chiller is included in the project); and it incurs the capital, operating and maintenance costs for the CHP system installation. HECO T-1 at 19. The HECO Companies' quantitative economic analysis of the CHP Program for each Company took all of these revenue and cost impacts into consideration. For the non-utility CHP case, the analysis also considered the revenues that a Company continues to receive from a customer for supplemental or backup service provided under its regular rate schedules. HECO T-1 at 19-20.

The analysis took into account the revenues and costs resulting from doing a substantial number of CHP projects. Justification for CHP system projects can and should be shown on a programmatic basis, rather than on a project-by-project basis – as long as the terms and conditions under which the CHP system services are provided to customers are consistent with the assumptions underlying the quantitative analyses justifying the program. See Response to CA-IR-31.

b. Loss Of Revenue Due To Third-Party Installations

The installation of a third-party CHP system will cause the HECO Companies to lose revenue based on the reduction in demand and energy charges it receives from the customer. The energy charge recovers a substantial percentage of the Companies fixed demand and

customer costs, and the lost revenues far exceed any savings the Companies will see in variable operating and maintenance costs associated with the customer's reduction in load and energy. Under the analysis that was done for the HECO Companies' CHP Program application, a third party CHP installation would ultimately have a negative impact on non-participating ratepayers. HECO T-1 at 19.

A third-party CHP proposal to Castle & Cooke Resorts on Lanai is a case in point. As described in Maui Electric Company's Application for Approval of a Service Contract with Castle & Cooke Resorts, LLC in Docket No. 03-0261, the non-utility CHP proposal was to add approximately 12 CHP and DG generators, with a capacity of over 5 MW, at the Manele Bay Hotel, Lodge at Koele, and Central Services. If the proposal had been implemented, 17 accounts representing approximately 40% of MECO's Lanai Division sales would have been lost from the grid. These sales that would be lost provide approximately \$1.2 million annually toward MECO's fixed costs of serving Lanai. If the reduction in revenues for fixed costs were allocated to all of MECO's remaining customers on Lanai on an across-the-board basis, the result would be a rate increase of approximately 37% for remaining Lanai customers. HECO T-1 at 18-19, citing MECO Application for Approval of Service Contract with Castle & Cooke, Docket No. 03-0261 at 11-15.

In this situation, MECO's options to respond to the situation were to offer the discount, and help facilitate the installation of a number of energy conservation measures, to defer the customer's CHP project, and to encourage the customer to plan a CHP project (whether utility, third-party, or customer owned) that would be better sized and timed to fit with the island's overall generation needs. Response to CA-IR-11.

Third-party or customer owned CHP and DG can provide some of the same generic benefits as utility-owned units, but only to the extent that they meet utility standards for design, operability (including dispatchability), and reliability. (These generic benefits may include deferral of new central station generating capacity, and displacement of utility central station generation fuel and variable O&M costs). However, only utility-owned CHP or DG provides the benefit to ratepayers of retaining customer load and avoiding uneconomic bypass. See HECO T-3 at 7-10, and HECO T-4 at 15-16; see also Responses to CA-IR-10.a; CA-IR-13.a,b; CA-IR-25.a; CA-IR-18.

**c. Interests Of All Ratepayers Taken Into Consideration
If The Utility Is Allowed To Participate**

The interests of all customers are taken into consideration primarily by structuring the program of installing utility-owned CHP systems so that non-participating customers are not burdened. HECO T-1 at 20.

If the electric utility is allowed to participate in the CHP market as a regulated entity, the Commission must approve the HECO Companies' Schedule CHP tariff filing, and/or individual CHP Rule 4 project filings, and the Commission, with input from the Consumer Advocate, has the authority to regulate the Companies to ensure that the interests of all customers are taken into consideration. This is in contrast to non-utility CHP installations, where only the interests of the host CHP customer and the CHP developer are considered and there is no regulatory oversight. HECO T-1 at 20.

**d. Utility-Owned And Operated CHP Benefits
The Overall Utility Electrical System**

The ability of the utility to directly control the operations and maintenance of a CHP system will improve its impacts on system reliability and power quality. In short, although a non-utility owner and operator of a CHP system has an interest in properly running its CHP unit,

its primary interest is its own and is not from the perspective of the overall utility system. The utility is accountable not only to the host CHP customer, but also to the non-participating ratepayers and regulatory agencies. HECO T-1 at 20-21.

5. The HECO Companies' Franchise Allows Participation in the DG Market

a. Franchises

COM has incorrectly asserted that the HECO Companies' franchise does not permit the HECO Companies to own or operate DG systems. COM T-1 at 19. COM's assertion is contrary to the facts and applicable law.

In general, the HECO Companies do not need an explicit grant of authority to engage in an activity, unless there is a statutory or other restriction prohibiting such an activity without an explicit grant of authority. HECO Companies' Response to PUC-IR-1.

For example, H.R.S. Section 269-7.5(a) requires a Certificate of Public Convenience and Necessity ("CPCN") issued by the Commission before commencing business as a public utility. Section 269-7.5(c) excuses the Companies from this requirement by virtue of their franchises. HECO Companies' Response to PUC-IR-1.

Thus, if the retail sale of electricity to a customer by a non-utility third-party was deemed to be an electric utility service, the third-party would require a CPCN to offer such a service. The Companies would not require a new authorization to provide another electric utility service (such as the provision of CHP systems), but would have to comply with statutory and rule requirements with respect to tariff filings and approval of special contracts. HECO Companies' Response to PUC-IR-1.

The Companies' franchises grant them the right to use public rights of ways, and impose franchise fees and certain service obligations in exchange for the grant. The franchises do not

purport to limit the franchised utilities to owning and operating central station generating units, or prohibit them from owning and operating customer-sited generating units (or prohibit them from engaging in other activities, including non-utility activities). HECO Companies' Response to PUC-IR-1; see HECO RT-1 at 34-35.

b. Qualifying Facility Rules

The HECO Companies were asked in an information request whether their position on utility CHP system ownership was consistent with HAR § 6-74-7. HAR § 6-74-7 falls under subchapter 2 of Chapter 74, Title VI, which applies to the criteria for and manner of becoming a “qualifying small power production facility” and a “qualifying cogeneration facility”. HAR § 6-74-2. In order to be a qualifying facility (“QF”), a “small power production facility” and “cogeneration facility” must meet the ownership criteria specified in HAR § 6-74-7. See HAR § 6-74-4(a)(3), (b)(2). Section 6-74-7(a) merely provides that neither a cogeneration facility or a small power production facility meets the ownership criteria to be a QF if the facility is owned by a person primarily engaged in the generation or sale of electric power (other than electric power solely from cogeneration facilities or small power production facilities). Section 6-74-7(b) defines, for purposes of § 6-74-7, when a facility is considered to be owned by a person primarily engaged in the generation or sale of electric power. HECO Companies' Response to PUC-IR-1.

The Hawaii PUC adopted its rules under a provision in the Public Utility Regulatory Policies Act of 1978 (“PURPA”) requiring that state commissions implement rules adopted by the Federal Energy Regulatory Commission (“FERC”), and § 6-74-7 is identical to the FERC rule found in 18 CFR § 292.206. In adopting its rule, FERC apparently recognized that someone might attempt to misinterpret the rule, and explicitly stated that: “The Commission emphasizes the fact that nothing in this program limits the extent of utility ownership or operation of

cogeneration or small power production facilities.” HECO Companies’ Response to PUC-IR-1, citing 45 Fed. Reg. 17959, 17971 (March 20, 1980); Response to LOL-SOP-IR-81.

6. COM’s Virtual Power Plant Concept

COM has recommended that “the Commission direct MECO to modify its planned Capacity Buy-back (“CBB”) program into an expanded virtual power plant program.” COM T-1 at 16. In addition, COM has urged the Commission to “[d]irect the utilities to examine the creation of a virtual power plant from existing customer-owned emergency generators, . . . [and] report on the costs and benefits of doing so.” COM T-2 at 97. Further, COM has proposed that: “[t]he Commission should direct each utility to develop a plan to implement a virtual power plant in its service territory. This should include an inventory of possible generators, development of a plan to install synchronization equipment and central dispatch capability, and development of the contractual and institutional framework needed to make the program a success.” COM T-2 at 101.

However, COM has not provided any detailed analysis or other basis that would justify the proposed direction that MECO modify its planned CBB Program. In addition, its recommendation appears to go well beyond the scope of this docket.

The HECO Companies also have a number of issues and concerns with the VPP concept, including the actual availability of the emergency generators during times of system need, air permit limitations, noise, emissions and increased fuel truck traffic, lack of control over testing and maintenance practices for the emergency generators, potential lack of adequate dispatch control, and fuel storage capacity. Moreover, HECO is implementing a Commercial and Industrial Direct Load Control Program that will allow customers to take advantage of their emergency generators, to the extent that proves to be feasible, to provide interruptible “capacity” to the company. However, the HECO Companies are agreeable to undertake a feasibility study

of the virtual power plant concept for the island of Maui within the next major MECO IRP review (i.e., MECO IRP-3), provided that the full costs of the study are recoverable via the IRP Cost Recovery Provision. HECO RT-3 at 14. The HECO Companies' concerns with the VPP concept are more thoroughly discussed in Exhibit C to this Opening Brief.

While COM contends that utilities should be barred from offering CHP systems to their customers, arguing that they should be excluded from supplying such systems when they serve a specific customer's load, COM inconsistently contends that utilities should be compelled to consider or implement COM's VPP concept – even if the utilities could end up owning, operating and maintaining customer-sited emergency generators.

COM stated that as long as back-up generators are providing public services, then it would be appropriate for the public utility to provide those public services. COM viewed such an arrangement as a public service since the back-up generator when dispatched by the utility would feed power to that customer and reduce that customer's load in most cases, which would reduce the load needed to be served by the utility. Tr. (12/8/04) at 201-02 (Kobayashi). The HECO Companies' proposed CHP Program would have the same result. The CHP system would serve that customer's load (which is a utility obligation) 100% of the time, which would reduce the utility's need to serve that load through central station generation.

7. Utility Participation As A Non-Regulated Entity

At this time, the HECO Companies do not anticipate participating in the DG market if only a separately capitalized, separately staffed affiliate was allowed to participate. The HECO Companies' reasons for providing CHP system services as a regulated utility service are stated above and in the CHP Program application. The expertise and resources to provide such services reside in the utility. The customers desiring such services are utility customers. The objectives of the program are utility objectives. The needs of participating and non-participating customers

can be served if the program is provided on a regulated basis, while the impact on non-participating customers would be a non-factor for an unregulated supplier of CHP systems. Utilities are in a better position to provide customers with the option of having the services provider be the entity that owns, operates and maintains CHP systems, which should increase the market for such systems. HECO T-1 at 21.

The HECO Companies might consider providing CHP systems services on an unregulated basis, if that was the only option, through the utilities themselves, in the manner that TGC provides both unregulated propane services and regulated SNG and propane services within the same entity. However, this would present opportunities for conflicting objectives between the regulated and unregulated businesses of the Companies, which would not be present if the Companies provided CHP systems services on a regulated basis. HECO T-1 at 21-22, citing HECO Companies' Response to TGC/HECO-SOP-IR-3; see HECO Companies Response to PUC-IR-19.

LOL referenced HECO's unregulated affiliates, HERS, Provision and HEI Power Corporation, apparently in an effort to support its contention that the HECO Companies should provide CHP service on an unregulated basis, if at all. Tr. (12/8/04) at 171-72 (Curtis). LOL's comparison of HECO's unregulated affiliates to the HECO Companies' proposed CHP program ignores fundamental differences in the services provided by the entities being compared. For example, HERS sold energy to HECO from a wind farm. Provision provides PV service to off-grid customers. HEI Power Corporation provided services overseas. The HECO Companies are proposing to offer CHP systems to their own utility customers.

8. **Other Parties Support The HECO Companies' Participation As Regulated Entity**

a. **Consumer Advocate**

Under Hawaii Revised Statutes §269-51, the Consumer Advocate is required to “represent, protect, and advance the interests of all consumers.” H.R.S. §269-51 (emphasis added). The Consumer Advocate’s role in the instant proceeding is no different.

The Consumer Advocate supports ownership and operation of DG projects by the HECO Companies or any other party. In fact, the Consumer Advocate stated that it “recommends that there be no restriction on who may own and operate customer-sited DG projects. Thus, customer-sited DG can be owned, operated and maintained by a customer, the utility company or a third-party vendor.” CA-RT-1 at 17. Specifically, the Consumer Advocate has recommended that the utility be allowed to own, operate and/or maintain customer-sited DG because “Utilities’ participation will provide customers with more options for the providers of DG to be installed on customer premises, thereby promoting a competitive market for DG;” and that “Utilities should be provided the opportunity to implement the lowest, reasonable cost plan to provide reliable service as established by that Utilities’ IRP, which ultimately benefits all of the Utilities’ customers.” CA-RT-1 at 23-24. Thus, the Consumer Advocate, like the HECO Companies, foresee an eventual overall benefit to customers with direct participation of the HECO Companies.

In fact, the Consumer Advocate has speculated that a negative consequence would result from disallowing the utilities to participate in the customer-sited DG market. The Consumer Advocate has stated that: “Preventing Utility participation in the customer-sited DG market will reduce the number of potential DG suppliers and impair the creation of a competitive DG market. In addition, not allowing the Utility to participate in the customer-sited DG market may

adversely impact the Utilities' ability to provide reliable service at the lowest reasonable cost."

CA-RT-1 at 26.

While it appears that the Consumer Advocate supports utility participation in any form, it recommends utility participation as regulated service. In particular, like the HECO Companies, the Consumer Advocate has recognized specific benefits that may be realized with participation as a regulated entity. The Consumer Advocate stated that:

As a regulated service, the Utilities' involvement in the customer-sited DG market would focus on reliability in a manner consistent with central utility planning (i.e., the IRP process). This would contrast with an unregulated subsidiary's focus, which may be on cost and profit for specific customer-sited DG projects. If offered as an unregulated utility service, there would be no requirement to seek Commission approval for the installation of the DG unit at a customer's premise, or for the rates to be charged for the energy provided by DG facility, similar to the existing arrangement between customer and third-party vendors of DG facilities.

On the other hand, if the installation of customer sited DG were offered as a utility service the Commission would have an opportunity to review the proposal and determine if such installation is a cost-effective means of meeting the Utilities' customers' energy needs. The reason is because the installation would first be identified in the development of the Utilities' IRP. The commission could also require the Utility to seek Commission approval of the specific project through the filing of an application. Both of the above will provide interested parties an opportunity to address concerns with the specific proposals of the utility.

CA RT-1 at 26-27.

The CA was opposed to excluding the utility from participating in the DG market even if there was a rule preventing uneconomic bypass and assuring stranded cost recovery. Even with these mechanisms in place, the CA still had concerns regarding the potential results if the utility is not allowed to participate in the DG market. For example, (1) there would be lack of centralized planning to meet customer needs, (2) there could be reliability issues if there is an unregulated entity providing service rather than a regulated entity, and (3) there is the potential

for the utility to adversely affect competition if the utility provided services for an unregulated entity (there would be a challenge to monitor a utility's non-regulated activities to make sure that the utility does not adversely affect competition). Tr. (12/8/04) at 82-83 (Herz).

b. Hess Microgen

Equipment vendors also support direct utility participation in DG market. For example, Hess Microgen has specifically supported the HECO Companies' participation in the market. According to Hess,

Distributed generation should be owned and operated by both regulated electric utility companies and private companies to provide customers with the most options. The regulated electric utility companies and private companies offer customers distinct options in regards to ownership, installation, maintenance, and rates. These distinct options will permit customers to select the provider that will best meet their needs for reliable power at a fair cost.

Hess DT at 2 (Gregg).

c. Kauai Island Utility Cooperative

KIUC has stated that "utility ownership of DG projects should be allowed and even encouraged on Kauai." KIUC T-2 at 32-33; KIUC T-1 at 12.

C. ISSUE #3: WHAT IS THE ROLE OF THE REGULATED ELECTRIC UTILITY COMPANIES AND THE COMMISSION IN THE DEPLOYMENT OF DISTRIBUTED GENERATION IN HAWAII?

The roles of the utility and the Commission with respect to DG depend on the DG application. As identified previously, there are seven categories of DG applications.

1. Role Of Utility

a. Customer-sited Emergency Generation

The HECO Companies do not currently provide customer-sited emergency generation. A few mainland utilities have provided such service under a tariff program, with or without reserving the right to operate the emergency generators for peaking purposes when there is a

capacity shortage. In the absence of actually providing such a service, the utility's role should be to enforce tariff provisions, which require that such generation not be operated in parallel with the utility grid. HECO RT-1 at 6; See Responses to CA-SOP-IR-12; HREA-HECO-IR-9. See also Exhibit C to this brief, which addresses COM's so-called VPP concept.

b. Substation-Sited Peaking Generation

The HECO Companies have used and intend to continue to use DG for this purpose under appropriate circumstances, as was done with HELCO's four 1-MW dispersed generators. HECO RT-1 at 6.

c. Substation-Sited Generation To Address Case-Specific T&D Problems

The HECO Companies have implemented and intend to continue to implement DG for substation generation to address specifically identified T&D problems in appropriate circumstances, as was done with MECO's Hana generators. HECO RT-1 at 6.

d. Customer-Sited DG Or CHP Systems

The HECO Companies intend to offer CHP systems under circumstances where it is cost-effective for the utility to do so, and offering such a service does not unduly burden non-participating customers. HECO RT-1 at 6.

With respect to customer-sited CHP systems or other DG owned by the customers or third-parties, the utility's role is to develop and enforce interconnection standards, which the Companies have done by filing a Tariff Rule 14.H. The utility will also be responsible for providing back-up and supplemental service to the customers. The utilities must design and obtain approval for utility tariff provisions that ensure the utility customers will not be unduly burdened by the provision of utility back-up service to customers with customer-sited CHP systems or DG. HECO RT-6 at 7.

e. **Customer-Sited Cogeneration**

The HECO Companies do not intend to offer customer-sited emergency generation, but would consider owning such facilities on a case-by-case basis (for example, when such ownership would facilitate installation of a biomass plant that would contribute to meeting RPS goals). HECO RT-6 at 7.

The HECO Companies would consider owning and operating an industrial customer-sited cogeneration facility that sells electricity and proves steam to the industrial host, and that delivers electricity in excess of the host's requirements to the utility. Generally, however, such a project should be considered outside the scope of this proceeding given the probable size of such a facility and the transmission of electricity from the facility to the utility's grid. HECO RT-1 at 7.

For non-utility cogeneration operated in parallel with the utility grid, the utilities develop and enforce interconnection standards, and provide back-up and supplemental service. Where excess power is exported to the utility system, the utilities negotiate power purchase and interconnection agreements based on Commission-adopted rules and principles enunciated by the Commission in power purchase dockets. As stated earlier, power purchase arrangements are beyond the scope of this proceeding. HECO RT-6 at 7.

f. **Off-Grid, Customer-Sited Generation**

The HECO Companies do not intend to offer off-grid customer-sited emergency generation. Thus, the utilities do not have a role in the deployment of off-grid DG. HECO T-6 at 9.

g. **Customer-Sited Generation For Power Purposes Only**

The HECO Companies do not offer customer-sited generation for power purposes only, but would consider DG for this purpose on a case-by-case basis if such an application becomes a

cost-effective utility option. The utility's role for non-utility DG is the same as its role for non-utility CHP systems. HECO T-6 at 9.

2. Role Of Commission

a. Review Utility Applications and Proposals

With respect to utility proposals for substation-sited peaking generation and substation-sited generation to address case-specific T&D problems, the Commission's role is to review such proposals under paragraph 2.3.g.2 of General Order No. 7. HECO RT-6 at 8.

The Commission's role with respect to utility offerings of CHP systems is to review the application for a CHP Program as it would other supply-side planning tools under the criteria included in the IRP Framework, and to review the proposed tariff provision (Schedule CHP, Exhibit E to CHP Application), the Eligibility Criteria (see, CHP Application, pages 31-33, and Exhibit E, Attachment I), and the program budget and budget flexibility provisions (CHP Application, pages 11-13) in order to determine whether the program will address its intended purposes. In the HECO Companies' view, it is appropriate for contracts filed under an approved CHP program to be reviewed under a file and suspend process, for the reasons explained in the CHP Application (pages 34-36). HECO RT-6 at 8.

b. Review Utility Rule 4 Contracts

The HECO Companies also plan to request approval for the installation of CHP systems that may fall outside the scope of the CHP program, and as stated earlier, for contracts entered into before CHP program approval can be obtained. HECO RT-6 at 8. The Commission's role would be to review applications for approval of the Rule 4 contracts under paragraph 2.3.g.2 of General Order No. 7 and to determine the consistency of these individual projects with the overall objectives of the CHP program (i.e., to review the consistency of the form of contract and the pricing structure with that included in the CHP program). HECO RT-6 at 8-9.

c. Review Tariff Provisions Relating to Interconnection

In the case of CHP systems and DG operated in parallel with the utility's grid system, the Commission's role is to investigate the impacts of such DG on the utility system, as it is doing in this proceeding, and review utility tariff provisions relating to the interconnection of such facilities to the utility grid and the utility's provision of back-up and supplemental service, as the Commission has done in other proceedings. HECO RT-6 at 9.

The HECO Companies will participate in Commission proceedings to set fair and equitable rates and/or tariff provisions to reasonably recover the costs of providing standby service from standby customer imposing such costs. HREA-HECO-IR-11.

d. Review Scope of Public Utility Statutes

With respect to customer-sited CHP systems and DG owned by third-parties, the Commission's role is to review whether the retail sale of electricity by such third-party owners falls within the purview of the public utility statutes. The HECO Companies do not take the position that these third-party owned installations should be regulated by the Commission, due to the relatively small number of such installations. HECO RT-6 at 9.